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page 1566 The annotation of *Employment, incomes and migration in Papua New Guinea towns*, by ROSS GARNAUT, MICHAEL WRIGHT, AND RICHARD CURTAIN, should note that the book includes an index.

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page 429 The abstract of the article by L. A. ALEXANDER AND T. B. JABINE mistakenly includes text material from another abstract from a later issue of the *Social Security Bulletin;* lines 14–34, beginning "This article . . ." and ending "program," should be deleted.

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Research on Teaching College Economics: A Survey

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We are indebted to Elisabeth Allison, G. L. Bach, William Becker, Frank Bonello, Kenneth Boulding, Stephen Buckles, J. R. Clark, George Dawson, Daniel Fusfeld, Malcolm Getz, W. Lee Hansen, Robert Heilbroner, Robert Highsmith, Cliff Huang, Thomas Johnson, Allen Kelley, Darrell Lewis, Michael MacDowell, Campbell McConnell, Richard McKenzie, David Morawetz, Donald Paden, Phillip Saunders, Alex Scott, Howard Tuckman, John Vahaly, Henry Villard, Burton Weisbrod, Arthur Welsh, and Thomas Zak for comments on an earlier draft; to Thomas Overstreet and James Lewek for research assistance; to the members of Economics 380, Kaye James, Noel Lim, Katherine Maddox, Hal McClure, Mary Ann Meiners, and George Nomikos, for papers and discussions on economics education; to Violet Sikes for typing; and to Marjorie Churchill for editorial assistance.

I. *Introduction*

DURING the past fifteen years, an extensive research literature has developed on the subject commonly called economic education (not to be confused with the economics *of* education).[1] Economists with established reputations have made contributions, the *Journal of Economic Education* has completed almost a decade of publication, and some economists regard the field as their primary specialty.[2]

This survey is as diverse as the research it reports, but several themes recur. (1) In preparing this paper, we became impressed by the usefulness of the tools of economic theory and econometrics for analyzing teaching problems. Burton F. Weisbrod has raised the question: Why should economists investigate teaching problems at all? Why not leave the subject

[1] The economics *of* education is concerned primarily with the benefits, costs, production, and financing of the dissemination of knowledge of any and all subjects. Economic education has similar concerns regarding the dissemination of knowledge about the single subject of economics. Most of the research evaluates alternative strategies for teaching economics successfully. The field is sometimes called economic*s* education, a term that is better English usage.

[2] In the 1978 *Directory* of the American Economic Association, 45 economists indicated that economic education was their primary specialty [4, 1978, pp. 426–31].

to educational specialists and psychologists?[3] [171, 1979]. The most telling answer lies in the nature of the work already done. The economist brings to research on teaching certain skills and ways of thinking indispensable for sophisticated investigation of the subject. (2) Another theme is diversity. Different students learn in different ways. A menu of techniques may dominate any single one. (3) From the contributions of psychologists comes the theme that instruction targeted at specific objectives may be better than instruction not so targeted. (4) We shall be concerned with the extent to which training and experience lead to better teaching, particularly whether training in teaching as distinct from training in subject matter has anything to contribute. (5) We shall also be concerned with the search for innovative teaching methods that work.

A. *Omissions*

The present survey concentrates on college teaching, particularly the elementary course (because most of the research has been on it). We pay only slight attention to high school economics and none to pre-high school teaching, graduate instruction (except for training of college economics teachers), and informal economics education.[4] With minor exceptions, we confine ourselves to literature published in economics journals and books by economists. Most of the work is in the *Journal of Economic Education* and the annual *Papers and Proceedings* of the American Economic Association. We focus on research findings in contrast to descriptions of courses, teaching methods, and curricula.

We have omitted certain topics partly due to space constraints and partly because they do not fit well with the main focus of the survey. We regret the omission of radical economics. Radical economists have criticized orthodox economics teaching severely and have published discussions of alternative approaches.[5] But to the best of our knowledge, they have not done enough research on the results to warrant inclusion here. For similar reasons, we have omitted discussion of the experimental elementary courses sponsored by the Joint Council on Economic Education (JCEE).[6] Also omitted is a discussion of sex differences in economics education, which would report that females enter college at a disadvantage (apparently for cultural reasons), which tends to persist but not to worsen during introductory economics.[7]

Three decades ago a subcommittee of the American Economic Association reported that "the content of the elementary course has expanded beyond all possibility of adequate comprehension and assimilation by a student in one year of three class hours a week" [162, Horace Taylor, 1950, p. 56]. This kind of criticism

[3] A prior question is whether fruitful research on such problems is possible by anybody. Casual empiricism by the older of us suggests that 20 years ago large numbers of economists and faculty members in liberal arts colleges generally would have answered with a resounding no. It is likely that many of them still feel that way. The proper answer is that any important activity like college teaching is appropriate for research. The only questions are when a subject becomes ripe for fruitful investigation and whether the likely results justify the cost. Thirty or forty years ago an answer of "not yet" was plausible, but no longer.

[4] Those interested in precollege economic education are referred to Donald R. Wentworth, W. Lee Hansen, and Sharryl H. Hawke [175, 1977] and W. Lee Hansen *et al.* [59, 1977].

[5] The first draft of this survey discussed Richard C. Edwards and Arthur MacEwan [41, 1970]; Michael Zweig [179, 1972]; John G. Gurley [56, 1975]; Michael Meeropol [105, 1975]; and Robert Buchele and William Lazonick [26, 1975]. See also Martin Bronfenbrenner [24, 1970, p. 765].

[6] See Kenneth and Elise Boulding [22, 1974]; Rendigs Fels [49, 1974]; Richard H. Leftwich and Ansel M. Sharp [89, 1974]; Phillip Saunders [133, 1975]; and Barbara and Howard Tuckman [165, 1975].

[7] For a detailed survey of the literature evaluating the relationship between sex and learning economics see Siegfried [142, 1979], which was a portion of the first draft of this article.

has been repeated again and again.[8] According to George Stigler, "The watered-down encyclopedia which constitutes the present course in beginning college economics does not teach the student how to think on economic questions. The brief exposure to each of a vast array of techniques and problems leaves the student with no basic economic logic with which to analyze the economic questions he will face as a citizen. The student will memorize a few facts, diagrams, and policy recommendations, and ten years later will be as untutored in economics as the day he entered the class" [159, 1963, p. 657]. Such criticism is based on an assumption about what the typical elementary course is like. The assumption may be true, but has never been verified. We shall say no more about it.

Whereas the introductory course has been the subject of much discussion, criticism, and research, the undergraduate major has drawn little attention. An exception is David Hartman's study [64, 1978; 65, 1978].[9] According to Hartman, the goal implicit in the general examinations given to undergraduate majors at Harvard is skill in micro theory, macro theory, and the use of each "to answer real world questions" [64, 1978, p. 18] (see also [65, 1978, p. 87]). He concluded that the introductory course is the high point of the undergraduate major at Harvard and that the conventional course in intermediate micro theory "does not appear to have much impact on either students' knowledge of micro theory or their ability to apply it" [65, 1978, p. 90]. He found some evidence that a policy-oriented macro course has an impact on what students know about macro theory, but it is not strong enough to pass a significance test at conventional levels of acceptance.

B. *The Production Function for Economics Education*

In the rest of the survey, we organize the massive literature on teaching methods and techniques around the typical components in production function analysis. Production function studies can help determine whether or not economics instruction is efficient. This has important policy implications, especially for times of austere instructional budgets, since inefficiency means that it is possible to increase school outputs without additional inputs.[10] The vast majority of the research on economics education has been concerned with evaluating teaching methods. The implied theoretical model is a production function that shifts as a consequence of a particular technique.[11] The conceptualization of these empirical studies, however, has been disorganized.

The absence of an established theory of learning has made the specification of

[8] For other examples of the standard criticism, see Fels [46, 1955; 49, 1974], George L. Bach [11, 1967; 12, 1976], Leftwich [88, 1976], Gurley [56, 1975], Hansen [57, 1975], Leftwich and Sharp [89, 1974], Saunders [133, 1975], and Barbara and Howard Tuckman [165, 1975].

[9] Other recent exceptions, albeit with little research content, are David Morawetz [107, 1976; 109, 1978] and Bronfenbrenner [25, 1978]. According to Morawetz, "The aim of an economics education is to train students to become economists" [107, 1976, p. 1]. Such a goal seems irrelevant to the vast majority of undergraduates in American colleges and universities. Bronfenbrenner says, "I prefer economics to become more frequently a 'junior Ph.D. major' " [25, 1978, p. 22].

[10] There is, however, a fundamental statistical and interpretive issue: Most production function studies are based on observed behavior, in which case the estimated relationships will not map the production *frontier* unless all producers are generating maximum output for given inputs. Ironically, we are usually engaged in such analyses because we suspect that production is not occurring on the frontier.

[11] Most of the difficulties in modeling and estimating economics education production functions are common to the specification and estimation of general educational production functions. However, in the latter case more attention has been devoted to the impact of sociodemographic characteristics than to teaching technologies on school performance. Comprehensive surveys of this literature are included in Elchanan Cohn [32, 1979] and Richard Murnane [112, 1975].

production functions difficult. In general, linear additive models have been specified. There has been little concern with such issues as simultaneity (if student interest is an output, does it not feed back into cognitive understanding?), functional form (are there interactions among the independent variables?), and the statistical techniques employed (many dependent variables are limited, even dichotomous, making ordinary least squares regression analysis inappropriate). The studies have usually arisen from an instructor's initiative to try a new teaching technique and typically involve a comparison of the course before and after or with and without the new innovation. Only a limited number of the studies have used broad-based samples, and very few have considered whether the benefits are worth the costs.

To evaluate innovative instructional techniques it is necessary to hold other things, especially the level of inputs, constant. William I. Davisson and Frank J. Bonello [40, 1976] describe a useful taxonomy for organizing research on the production function for learning college economics. Their approach is superior to the *ad hoc* theorizing that characterizes most of the economics education literature. Davisson and Bonello identify three separate categories of inputs: human capital (*SAT* scores, grade point average, and pretest scores); utilization rates (time spent on the course by students); and technology—the efficiency with which effort is transformed into cognitive achievement (lecturer effectiveness, text effectiveness, *etc.*). This distinction draws attention to the potentially defective conclusions that may arise from simple comparisons of test scores between control and experimental groups, or even a comparison of control and experimental groups' performance that controls for human capital characteristics. A shift in the production function as a consequence of some alternative technology can be detected correctly only if input utilization rates are held constant. Otherwise, performance comparisons consist of output at different levels of inputs on potentially different production functions, and it is impossible to disaggregate the effect of changes in the level of inputs from changes in the rate at which inputs are transformed into outputs.

The production function involves multiple outputs as well as multiple inputs. According to Judith Yates, "the objectives of the education system must always be borne in mind [in research on economics education]. These objectives are often ill-defined and may vary significantly among institutions. . . . At the risk of overlooking important ones, a number of objectives can be listed: students' growth and development with regard to skills (which can include application, critical thinking, creativity, motor skills, etc., as well as comprehension and understanding); their social development (including leadership, communication, interpersonal relations, etc.); their acquisition of vocational skills, and so on." Furthermore, "The contribution of a particular technique or teaching method to the process of learning how to learn rather than to the specific output of precisely what was learned may be its most important attribute" [178, 1978, p. 13]. Other outputs are increased sophistication with respect to values and attitudes and changes in ideological orientation. Colleges also typically serve a screening role for graduate schools and the labor market.

II. *Measuring Outputs*

Those doing research on college teaching of economics are only beginning to come to grips with the multiplicity of objectives. In practice, they have measured output in three principal ways: examinations (usually objective tests), student evaluation questionnaires, and a kind of market test using number of majors attracted

or enrollment. The unsolved problem of measuring all the outputs and assigning weights to them has been pointed out by Yates and others as limitations on the research done. A related problem, which has been receiving attention in recent years, arises from the fact that different teaching methods have different impacts on different students, so that the distribution of outputs needs to be measured. This section is organized around five dimensions of output: cognitive performance, student attitudes toward the subject and the educational process, the impact of understanding and attitudes on subsequent behavior, changes in values, and the distribution of benefits.

A. *Measurement of Learning*

The bulk of research on college teaching of economics is based on the implicit assumption that "the major criterion or objective of economic education is a very narrowly defined concept of learning, related in some way to student performance as measured by achievement or course grade" [178, Yates, 1978, p. 12]. Availability of nationally normed, validated objective tests from which the data can be analyzed with standard statistical tools has encouraged this procedure.

A number of objective tests are available for research on economics education. (1) The *Test of Economic Understanding (TEU)* is a 50-item multiple choice test of what every high school graduate should know about economics [71, JCEE, 1963]. It has recently been revised [154, John C. Soper, 1979]. The new version is called the *Test of Economic Literacy (TEL)*.[12] For a time the *TEU* was used to measure learning in the college elementary course, a purpose for which it is unduly simple. (2) The elementary economics test in the Educational Testing Service's College Level Examination Program is a 90-minute 100-item multiple choice test designed to enable colleges to determine whether transfer students and students who have learned economics on their own are entitled to credit for the elementary course and/or admission to advanced undergraduate courses. It concentrates heavily on theory. Separate micro and macro versions are available. Because of high cost and tight security regulations, it has been used for only one research project that we know of, namely John J. Siegfried [141, 1977]. (3) By far the most widely used instrument is the *Test of Understanding in College Economics (TUCE)* [72, JCEE, 1968], which has been used in at least 71 studies.[13] For other discussions of the *TUCE*, see Fels [48, 1970], Arthur L. Welsh and Fels [174, 1969], Darrell R. Lewis and Tor Dahl [91, 1971], and T. R. Swartz, F. J. Bonello, and W. I. Davisson [161, 1977]. (4) *The Test of Economic Comprehension (TEC)*, which is similar to the *TUCE* in content and construction, has been used mainly in Great Britain [9, Richard Attiyeh and Keith Lumsden, 1971].

The *TUCE* is in two parts, each of which has two alternative forms of 33 multiple choice questions. Part I is intended to cover the content of the typical first semester of the college course, *i.e.*, macroeconomics plus some basic micro concepts. Part II is intended for the typical second semester: the theory of the firm, marginal productivity analysis, international economics, and comparative systems.[14] Since the two forms for each part are approximately equal in difficulty, one

[12] The *TEL* is meant for grades 11 and 12. The Joint Council on Economic Education, its publisher, also has tests for grades 2–3, 4–6, and 7–9.

[13] For this information, we are indebted to John Vahaly.

[14] Supply and demand analysis is included in both Part I (bare elements) and Part II. In addition to the four forms described above, a "hybrid" test consisting of 33 questions selected from both Part I and Part II was devised for Saunders's lasting-effects study discussed below. See Saunders and Welsh [136, 1975] and Saunders [129, 1971; 132, 1973].

can be given at the beginning of the semester, the other at the end, to measure the amount of value added. Although in subject matter content the specifications were meant to conform to the typical college course, they depart from it with respect to kinds of questions, having approximately one-third each in the categories of recognition-and-understanding, simple applications, and complex applications. (See Fels [47, 1967] and Welsh and Fels [174, 1969]). The committee responsible for the test hoped to influence economics instructors to put more emphasis on applications and less on memorization and abstract theory. National norms were established using data from 50 colleges.

The heavy dependence of economics education research on the *TUCE* calls for appraisal of its strengths and weaknesses. On the plus side, the quality of the test is considerably higher than the tests that can be constructed by individual research workers.[15] Constructing a reasonably satisfactory test is enormously difficult and expensive. The existence of matched pairs of tests, making possible measurement of value added in controlled experiments, and the availability of norming data for comparison purposes are legitimate reasons for the popularity of the *TUCE*. It was tested for validity [91, Lewis and Dahl, 1971] and found to be an effective discriminator of students with high and low levels of ability and a good measure of prior ability and analytical skills [28, Stephen G. Buckles and Welsh, 1972]. Lewis and Dahl found that its simple application questions were correlated with critical thinking skills as measured by the *Watson Glaser Critical Thinking Appraisal Test*.

The shortcomings of the *TUCE*, however, are considerable. In the first place, no general purpose test is likely to conform exactly to the purposes and content of any particular course. In the second place, not all the questions are satisfactory. (The *TUCE* is currently undergoing revision to replace unsatisfactory and outdated questions.) In the third place, no multiple choice test can measure all the objectives of elementary instruction.[16]

The correlation between scores on the best possible multiple choice test and grades on essay examinations varies according to the subject—high for mathematics, low for English literature, with economics an intermediate case. We do not know of any study directed at the specific question of how *TUCE* test scores correlate with essay tests built to the same specifications. H. Tuckman found a negative simple correlation between a ten-question version of the macro *TUCE* and course grades [166, 1975]. P. F. Labinski at a community college found an r^2 of .22 between the *TUCE* and course grades. He argued that the objectives of economics instruction at two-year colleges differ from four-year colleges [86, 1978]. Inasmuch as the *TUCE* was designed to measure not so much the objectives of four-year colleges themselves but what a committee thought those objectives should be, it is not surprising that two-year colleges with still other objectives would find the *TUCE* a poor measure of their output. Elisabeth Allison, in a Harvard Working Paper that estimates production functions for economics education, reports correlations ranging over a three-year period from .74 to .85 between scores on a 60-minute, 40-question multiple-choice test

[15] Despite the widespread use of multiple choice questions for grading purposes, most economists are not familiar with the elementary principles of test construction, *e.g.*, that specifications for the test must be drawn up in advance, that questions need to be pretested on seven or eight hundred students, that the right response must be shown in the data to be chosen more often by good students than by poor students and vice versa for the distractors, and that questions need to be edited by a psychometrician (among other reasons to avoid tipoffs to testwise students). For details, see Fels [48, 1970].

[16] T. R. Swartz, Bonello, and Davisson have documented the shortcomings of the *TUCE* as a measure of cognitive achievement for Notre Dame [161, 1977].

(parts of which are from *TUCE*) and a two-hour essay portion of the same three-hour final examination at Harvard [3, 1977, p. 15].[17]

Future progress in economics education will require a computerized national test bank consisting of thousands of carefully edited multiple choice questions with data proving that they "work." The questions need to be classified not only by subject and type of question but also by kind of course or courses for which they are useful (high school, elementary college, intermediate theory, *etc.*).

The availability of two matched forms of the *TUCE* has led to pre- and post-course testing, which permits several forms of the output measure to be specified: (1) absolute achievement—the post-test score; (2) absolute improvement—the difference between the post-test and the pre-test score; (3) percentage improvement—absolute improvement divided by the pre-test score; and (4) gap closing measure—absolute improvement divided by the potential gain in score (which is the difference between the perfect score and the pre-test score). The absolute achievement score reflects the level of understanding at a point in time. It is a stock measure. The absolute improvement score measures the increment of learning during a course.[18] An alternative is to use the post-test achievement score and control for initial economic understanding by including the pre-test score as an independent variable in the regression analysis. The percentage improvement and gap-closing measures were developed because there may not be a constant difficulty of learning throughout the spectrum from total ignorance to total mastery; thus any aggregate measure of success should measure improvements by students on the basis of the difficulty of achieving them [177, Simon Whitney, 1960]. The percentage improvement form implies that it is more difficult for poorer students to improve their scores by a given absolute amount. The gap-closing measure implies the opposite, that it is more difficult to improve a score by a given amount if one starts at a higher level of mastery (because only the most difficult material remains to be mastered) [155, Soper and Richard Thornton, 1976, pp. 86–87].

At first glance absolute improvement, percentage improvement, and gap-closing measures of output may appear subject to ceiling or floor effects. Random guessing would generate about a 25 percent score on a multiple choice test with three distractors in each question. Since the average score in the *TUCE* national norm was 57 percent, floor effects seem more likely than ceiling problems. William Becker and Michael Salemi [18, 1977] used a nonlinear model to deal with ceiling effects. More research is required on this issue because the existence of an upper or lower boundary tends to make the dependent variable inappropriate for ordinary least squares estimation.

[17] The major study in the United Kingdom (The Economics Education Project) carried out between 1969 and 1973 analyzed the correlation between *TEC* scores and grades awarded at both university and high school levels. At high school level the R^2 between final grades as awarded by the Examination Boards varied from .05 to .26 (sample sizes: 1970, 4,254 students; 1973, 3,335 students). At university level the R^2 was significantly greater than zero (ranging from .05 to .49 for 27 out of 38 courses with a total of 2,823 students. The mean R^2 was .12. (We are indebted to Alex Scott for this footnote. These results will be in a forthcoming book by Lumsden, Attiyeh, and Scott [97].

[18] Failure to consider explicitly whether the stock or the flow is to be measured is a common fault. For instance, most studies of economics education include sex as a binary variable but are not explicit about whether it is the stock or the flow that is associated with sex. Studies implicitly concerned with the stock generally report positive correlations between end-of-course student performance and male sex. Studies of the flow generally do not. Only when the distinction between stock and flow became recognized was the correct conclusion drawn: the evidence shows only that females start the introductory economics course at a disadvantage, not that they are at a disadvantage in learning economics during the course.

Incentives seem to make a difference. Sometimes tests used to measure output in an experiment count toward grades, sometimes not. William Wehrs found that the greater incentives of counting the *TUCE* when used as a post-test made a 12 percent difference in absolute score (and a gain difference of 40 percent) after holding constant the pre-*TUCE* score, high school rank, age, and sex [168, 1978]. Only a quarter of the instructors participating in norming the *TUCE* used the post-test results for grading, biasing the norms downward. But the scores used for the pre-test norms did not count toward grades at all, biasing improvement upward.

Most learning technology improvements have been adopted in introductory courses. Richard McKenzie and Robert Staaf argue that introductory courses, which are frequently part of "distribution requirements," are likely to be inferior goods [104, 1974, pp. 30–33]. The intent of introducing improvements in teaching technology may be to induce a substitution effect toward the discipline, but there is also an income effect associated with the relative price change (in terms of reduced student effort to achieve a fixed learning or grade level) brought about by improved technology in a single discipline. The benefits from improvements in teaching introductory economics may manifest themselves in released time devoted to studying other subjects or consumed in leisure. Allen Kelley found empirical support for this proposition [83, 1975]. If this occurs, the technology change may be deemed successful unless we value the alternative uses of time at zero.

B. *Measurement of Student Attitudes*

Student evaluations of courses and professors have come into widespread use in American colleges and universities over the past decade. Three types of student attitudes are likely to be of interest: (1) attitudes toward policy issues, (2) attitudes toward economics, and (3) opinions regarding the quality of instruction. The first will be considered in the subsection on values. The second was studied by David Ramsett, Jerry Johnson, and Curtis Adams using data from three small midwestern universities [122, 1973]. They found that those students who were more favorably disposed toward the subject of economics did better on the post-course *TUCE*, holding pre-*TUCE* and sociodemographic factors constant. Lewis Karstensson and Richard Vedder confirmed these findings with a similar analysis of Ohio University students, finding that students whose interest in economics grew the most during the semester also learned the most [74, 1974]. However, there was no attempt to control for study time.

The principal controversies surrounding student evaluations of teaching arise from the various uses to which they can be put. Some have argued that course evaluations are undesirable because they do not adequately represent student cognitive achievement. Miriam Rodin and Burton Rodin, using 12 calculus classes, reported that students who learned the most rated their instructors the worst [124, 1973]. Similar findings were reported by Dennis Capozza, who regressed student ratings of instructors on the increase in *TEU* scores and the average grade of eight different economic classes [29, 1973]. He found that higher course evaluations were associated with higher grades and less gain in *TEU* score. Studies by Soper, using data from the University of Missouri [151, 1973], and by Attiyeh and Lumsden, using a sample of approximately 4,700 British students [9, 1971], yielded similar results.[19]

[19] Both the Rodin and Rodin [124, 1973] and the Soper [151, 1973] studies were of large lecture classes with discussion groups led by graduate teaching assistants. The instructor evaluations were of the

On the other side of the issue are data from Saunders [131, 1972], which appear to support the validity of student evaluations as measures of cognitive achievement in three of four tests, and from Peter Sloane [149, 1972]. A more recent study by W. Douglas Morgan and Jon Vasché [109, 1978] also concludes that students can and do recognize good teaching. They estimated the marginal product of various teaching assistants (TA's) in a large introductory-level macroeconomics course at the University of California, Santa Barbara, by regressing final student grade performance on typical control variables and binary variables for specific teaching assistants. They then correlated the student course evaluations of the TA's with their impacts on final course grades, which the TA's did not control. There was a perfect rank correlation of evaluation scores with the estimated marginal products on (1) preparation for class, (2) communication skills, and (3) ability to respond to questions. Ratings on knowledge of the subject were positively but not perfectly correlated with marginal products.

Douglas Needham has reconciled the conflicting empirical relationships between learning, course evaluations, and expected grades [113, 1978]. Using a model of student time allocation in which students equate the marginal grade productivity of time devoted to each activity, Needham shows that the theoretical expectations relating grade levels to course evaluations and relating student learning to course evaluations are ambiguous because student time allocation decisions depend on the *rate* of transformation of effort into learning and the *rate* of transformation of learning into grades, rather than the absolute levels of learning and grades.

The debate on whether student course evaluations measure cognitive achievement well may overlook the multiple dimensions of teaching. If parties in the instructional process value the various dimensions differently, there may well be reason for an assessment of instructional characteristics aside from cognitive achievement. The resolution of this question then hinges on the assignment of values to different aspects of educational output. Some of the parties to the process may value "entertainment" highly and desire it to be a part of their education. Even if this is what course evaluations assess, they may be warranted.[20]

Students' assessment of instruction can be obtained either through systematic course evaluations, informal student opinion, or carefully structured intensive interviews. Although systematic course evaluations have the advantage of a larger sample, they may be subject to greater measurement error than intensive interviews because students feel less responsible in responding. But since systematic course evaluations are usually anonymous, they might be less biased.

The interpretation of student evaluations is also important. By far the most controversial issue is whether instructors can "buy" higher evaluations by lowering the (effort) price to students of achieving a given grade. McKenzie [102, 1975] and Paul Kipps [83, 1975] provide theoretical analyses employing price theory. McKenzie shows how an instructor can increase the average course grade by a parallel

teaching assistants. Kelley found that course evaluations were not strongly influenced by the performance of individual teaching assistants [81, 1972]. If this is correct, then lower evaluations of assistants whose students did worse on cognitive achievement may be spurious, the major effect on their performance arising from the lectures and other differences among them, which were not controlled in the Rodin and Rodin and Soper studies.

[20] However, Frank Costin, William Greenough, and Robert Menges in their comprehensive assessment of student course evaluations (mostly in teaching psychology) conclude that "existing data . . . do not permit a conclusion that sheer 'entertainment' is what makes students perceive a teacher as a 'good' one" [35, 1973, p. 51].

shift in the leisure–grade transformation curve, a shift favoring the better students, or a shift favoring the poorer students. If course evaluations improve as students do better in the class relative to their expectations, a relaxation of grading standards is consistent with either a positive, neutral, or negative correlation with individual student course evaluations. If the worst students are the ones who are pleasantly surprised by grading standards, they will rate the instructor higher than expected and, *ceteris paribus*, create a negative overall correlation between evaluations and grades for the course. But if instructors "buy" evaluations by raising grades, the positive correlation should appear in cross-course comparisons [76, James Kau and Paul Rubin, 1976].

These expectations seem to be borne out in the empirical studies. Kelley regressed course and professor evaluations on expected course grade, student ability, and other standard control variables for 258 students at the University of Wisconsin [80, 1972]. He found that the coefficient on students' expected course grade was significantly greater than zero, but its magnitude was small. It would have taken an enormous change in the instructor's overall grading standards to generate a trivial movement in his course evaluation scores.

Studies of the association between perceived grading standards and course evaluations across classes have found the expected relationship—easier grading is positively correlated with evaluations. In an analysis of 339 sections of social science courses at Central Michigan University, Alan Nichols and Soper found that students' expected course grade was a significant (both statistically and practically) determinant of course evaluations, holding course environment characteristics constant [115, 1972]. Class size and course level were not related to course evaluations. Rolf Mirus [106, 1973], in a regression study of 122 courses at the University of Alberta, confirmed the Nichols and Soper findings. He found that expected course grade was significantly related to course evaluations, but class size, type of course, the evaluation response rate (fraction of enrolled students who completed the evaluation), or whether the course was required did not influence evaluations. According to Mirus's findings, "a professor who, compared to his colleagues, makes the class expect a 1 point higher grade can improve his own evaluation by .85 of a point" [106, 1973, p. 36]. Both course evaluation and student grade were measured on a five-point scale. In a study of 201 classes in the College of Business Administration at the University of Georgia, Kau and Rubin reported similar findings [76, 1976]. Class level, required course, and expected grade were all statistically significant determinants of course evaluations. The average class grade point average, class size, and the percent of majors in the course had no effect.

The major problem in interpreting the studies that find a statistically significant positive association between course grades and students' evaluations of their instructor and between cognitive achievement and students' evaluations is sorting out cause and effect. If better instructors tend to emphasize the kind of higher learning that students are likely to protest (as costly to acquire), and if the standard tests of cognitive achievement fail to pick up these effects, the better instructors might have classes that do poorly on standardized tests and give low ratings.[21] This, however, is speculation.

[21] For a contrary view, namely, that student evaluations will encourage instructors to teach lower level cognitive material (*e.g.*, basic facts and concepts with applications to narrowly defined problems, rather than analyzing, evaluating, and synthesizing broad real-world problems), see Michael Everett [45, 1977]. He argues that because student evaluations seem to depend mainly on clarity of communication in the classroom, well-prepared lectures, and instruc-

Other than cognitive achievement (perhaps in a negative direction) and grading standards, what do student course evaluations measure? In a careful study of 4,996 course evaluations from the Graduate School of Business at Stanford University, Lumsden found that specific characteristics like clarity of presentation, enthusiasm, and respect for student opinion had the largest positive impact on course evaluations [96, 1974]. Sensitivity to a student's needs, interest in the student as a person, and availability outside of class were unimportant (although one might expect different results from undergraduates). Costin, Greenough, and Menges, summarizing many studies of course evaluations, concluded that "such attributes as preparedness, clarity, and stimulation of students' intellectual curiosity were typically mentioned by students in describing their best instructors" [35, 1973, p. 52].

The only widely used student evaluation form is the Purdue Rating Scale for College Instructors. It is a questionnaire consisting of 28 items. Each student rates the instructor from A to F on five broad categories of questions—personal characteristics (*e.g.*, patience and understanding), objectivity (*e.g.*, willingness to listen to and talk about divergent ideas or viewpoints that oppose his/her own), exposition skills (*e.g.*, concise presentation), tests and grading (*e.g.*, impartiality), and subject matter knowledge.[22] Most evaluations of instruction are made with the use of locally designed and administered questionnaires, making it difficult to compare the effects of instructional techniques on student assessments of teaching quality across schools. The advantage of "homemade" course evaluation instruments is the greater faculty confidence in results of their own handiwork [60, Hansen and Kelley, 1973, p. 18].

A serious problem with empirical research on student evaluations of teaching involves the transformation of questionnaire data to numerical indexes appropriate for statistical analysis. The typical course evaluation form provides a scale of five alternatives, from much better to much worse, on which students are asked to rate the particular course or instructor. Thus the questionnaires ask for ordinal data. Then the data are usually coded on a one to five scale and employed in the analysis. Raymond Battalio, Joe Hulett, and John Kagel have shown that conclusions based on regressions using data obtained from an ordinal rating can theoretically be reversed by performing entirely legitimate order-preserving transformations on the measured variables [15, 1973]. The real question, however, is whether this difficulty is important in a practical sense [140, Siegfried, 1973]. Without knowledge of the actual underlying cardinal scale, it is impossible to evaluate the seriousness of the problem.

Student course evaluations have probably received so much attention because they are frequently thought to influence faculty behavior. McKenzie and Staaf [104, 1974] and Hansen and Kelley [60, 1973] have used microeconomic theory to demonstrate how faculty might respond to changes in the reward structure. Furthermore, the effect of changes in time constraints (say, by varying the course load) are ambiguous because income effects may swamp substitution effects. Becker has shown rigorously that increasing the weight assigned to high quality teaching in the faculty income determination process may be ineffective unless improvements are made simultaneously in the accuracy of measuring teaching ability

tor enthusiasm, rather than on stimulating intellectual curiosity or illustrating how economists analyze broad complicated problems, they may encourage the teaching of lower level material that can most conveniently be taught with those instructional skills.

[22] For more detail on the Purdue Rating Scale, see H. H. Remmers and J. A. Weisbrodt [123, 1965].

[17, 1979]. In a further extension Cliff Huang demonstrates that the faculty work response to changing relative rewards to teaching and research may be ambiguous if the production processes for research and teaching are less than certain [68, 1979].

In an empirical study of the faculty salary determination process at the University of Wisconsin, Siegfried and Kenneth White found that teaching quality (measured by course evaluations) was rewarded positively [146, 1973]. The coefficient on a variable sensitive to the extremes in teaching performance was statistically significant at the .10 level. The importance of its size depends on the cost of improving teaching ratings. David Katz reported contrary findings about the rewards for teaching at a large midwestern university [75, 1973]. Katz, however, used a binary variable, which discriminated only between teachers above and below the median and consequently did not characterize the salary determination system as it was implied in his own interview reports, namely, that salaries are sensitive to extremes in teaching quality, but respond very little to differences close to the average. Siegfried and White [147, 1978] have shown that the differences in specification—sensitivity to extremes versus sensitivity only around the median—may cause the difference between Katz's findings and theirs. In a comprehensive analysis of the determinants of faculty salaries that was based on data gathered by the American Council on Education as part of a 1972–73 national cross-section of faculty, Howard Tuckman found that faculty who had won an award for outstanding teaching earned no more than others, *ceteris paribus* [167, 1976].

The Siegfried and White study examined salary differentials within an academic department; Katz's sample included faculty from various departments within a single university; Tuckman's data base (for the result reported here) consisted of economists at various institutions. These findings can be reconciled if the recognition (and reward) for teaching is local. For research there are national standards and visible evidence of performance (publication), while teaching reputation is usually well known only to local colleagues. Thus salary differences based on teaching ability may appear only within individual departments.

C. *Impact of Understanding and Attitudes on Behavior*

Economists generally measure the value of education by the discounted present value of the expected difference in earnings streams (net of direct costs) attributable to it. There are at least two major reasons this approach has been conspicuously absent from the literature of economics education. (1) Economics is usually offered as part of a liberal arts education. Because it is only a small part of a large program of education, it is difficult to attribute earnings differentials to specific courses in the program. (2) Many economists believe there are benefits to economics education that individuals cannot appropriate at reasonable cost, in which case private earnings will not fully reflect the total benefits from economics education. This frequently used "citizenship argument" for economics education means that economics education raises students' sensitivity to the political, economic, and social system of which they are a part and increases the intelligence with which they participate in it (*e.g.*, by voting) [58, Hansen, 1977].

The difficulties in assessing public benefits to economics education have been summarized by McKenzie: "Before the public benefits . . . can be acquired through the political process, the student . . . must have sufficient incentive to maintain the human capital stock that he has acquired. . . . Public choice theory

predicts that the typical individual student-citizens will not have sufficient incentive to incur these costs. . . . Finally, economic education must overcome the tendency of people, in spite of what they know about the economic merits of legislation, to vote their own private interests" [103, 1977, p. 10].

One approach to assessing subsequent student behavior compares the fraction of students in an experimental introductory course who go on to major in economics with the fraction from a conventional introductory course. The notion is that students who have favorable attitudes toward economics and/or believe there is value in economic reasoning are more likely to major in economics and also more likely to capitalize on their economic reasoning skills in later life. Unfortunately this measure of effectiveness has several disadvantages: (1) The percentage of students from a class who go on to major depends on the denominator as well as the numerator, and many exogenous factors (such as curriculum requirements of other, non-economics, major departments) may influence the number of students taking *a* course in economics. (2) An introductory economics course that provides an accurate portrayal of what a student might expect in future courses in the major may (appropriately) dissuade many from majoring. But this does not mean the course is a failure, any more than it means that the students' talents and/or interests are "bad." A model of student curricular choice formulated by McKenzie and Staaf [104, 1974] and tested empirically by Alan Freiden and Staaf [53, 1973] implies that students who are superior in both verbal and mathematical ability tend to switch majors less frequently than other students because they do not have to compromise their interests in order to achieve the highest grades possible for them. Thus, if student enrollment in voluntary experimental courses is correlated with abilities, inferences from the fraction who subsequently major in economics may be contaminated. (3) The advantage of effective experimental teaching methods may accrue to other courses or leisure time, depending on students' time allocation decisions. (4) When there are changes in the demand for graduates of different disciplines, the relative benefits from majoring in certain fields will be altered and induce a shift in student selection [52, Richard B. Freeman, 1971]. Since the introduction of new teaching technologies may accompany exogenous shifts in demand, there is risk of incorrectly attributing "success" to a new learning technology if majoring in economics is part of the output matrix.

D. *Attitude Sophistication and Values*

One of the goals of economics education is greater sophistication about policy issues. Economics training may also make students more conservative or more liberal. Researchers have attempted to measure both effects.

William R. Mann and Daniel R. Fusfeld have argued that "the attainment of a high level of attitude sophistication should be as much a goal as the proper manipulation of supply and demand schedules" [98, 1970, p. 125]. They developed a Questionnaire of Economic Attitudes (QEA) and concluded that the attitude sophistication of an experimental group improved while that of a control group without economics instruction did not. Mitchell P. Rothman and James H. Scott, Jr., criticized the measuring instrument as favoring liberals [126, 1973]. If they are right, Mann and Fusfeld's evidence suggests that economics makes students more liberal. Howard Tuckman [166, 1975] used a 20-item Attitude Sophistication (AS) test along the lines of Mann and Fusfeld's. He found that "an increase of about 3.3 points on the pre-AS exam adds one point to the post-AS score and 0.17 points to the final grade." He attributed the significant cor-

relation of the AS score with the grade to its measuring "economic *reasoning* rather than prior knowledge" [166, 1975, p. 36]. The AS test was not published. If it is free of bias, further research with it might be worth pursuing.

The 1973 article by Rothman and Scott [126] and another paper by the same authors [139, Scott and Rothman, 1975] report the results of administering a Social Opinion Questionnaire (SOQ) to students at Carnegie-Mellon. Whereas the QEA and the AS were intended to measure progress toward increased sophistication from studying economics, the SOQ was intended to "separate the students along a 'liberal–conservative' dimension." In the first study published, Rothman and Scott found that "conservative answers are almost invariably associated with higher expected *TUCE* scores at the start of the semester [*i.e.,* before the study of economics began]. Equally important is the fact that the most significant questions are those associated with an individual's preferences for the capitalist market system" [126, 1973, p. 121]. At the end of the course, which included some microeconomics but emphasized macro, there was no significant difference between liberals and conservatives on Part I of the *TUCE* (which, like the course, includes some micro but emphasizes macro). The authors concluded that the SOQ measures something other than economic knowledge, that conservatives on entering the introductory course know more economics than liberals, and that there is no systematic bias in the *TUCE,* Part I, when used at the end of the introductory course. Since the sample size was only 49 students at one school, these conclusions must be deemed exceedingly tentative.

The second paper throws more light on the effect of an introductory psychology course than on an introductory economics course. The psychology instructors were more liberal than their students and influenced them in a liberal direction. Scott and Rothman report that "the college experience is a liberalizing one [139, 1975, p. 109], but the psychology course had a stronger liberalizing effect than the economics course [139, p. 110].

Kim Sosin and Campbell R. McConnell investigated the effect of an introductory macroeconomics course on attitudes toward income distribution [156, *c.* 1978]. They found a significant shift in attitude toward more egalitarianism compared to a control group. The largest shifts were by students with the least incoming tendency toward egalitarianism and those with the highest grades. Inasmuch as Milton Rokeach [125, 1973] has shown that in the United States the liberal-conservative spectrum can be reduced to preference for equality, the finding of Sosin and McConnell that a macro course made students more liberal is convincing even though their survey was confined to a single issue.

In conclusion, it has not yet been established that attitude sophistication is a measurable output. On the question of political orientation, the evidence cited tends toward the conclusion that economics has a liberalizing influence. But the hypothesis that *micro*economics gives students an understanding of markets that makes them more conservative has not been disproved.[23]

E. *Distribution of Benefits*

The economic efficiency of new teaching methods should be assessed by comparing marginal benefits with marginal costs. Marginal benefits depend on the impact of the method on direct output units (*e.g.,* cognitive achievement, student atti-

[23] *Cf.,* Stigler [158, 1959] and Fels [50, 1978]. Some authors have concluded that microeconomics had a conservative influence but, having doubts about their evidence, we do not cite them. Fred A. Thompson found that increased knowledge of international economics was associated with a shift to a more favorable attitude toward free trade [163, 1973].

tudes) and the value that recipients place on the outputs. Hansen, Kelley, and Weisbrod observe that different opinions about who are "most 'important' to teach may be at the root of much of the controversy [surrounding instructional techniques]" [61, 1970, p. 365]. For example, students differ in previous preparation, verbal and mathematical abilities, career goals, sex, social concern, and many other characteristics. Consequently, they are likely to benefit differentially from any particular instructional method. It is impossible to assess the economic efficiency of a particular method without valuing the benefits received by various individuals. Typically we rely on market forces and equilibrium competitive prices to assign values to the marginal outputs. The peculiar financing of higher education, the market failures in appropriating benefits, and the inability to attribute consequences to causes (earnings to courses) make ascertaining such values difficult. Nevertheless, it is important to consider explicitly the distributional effects.

The two methods for incorporating distributional effects into typical production function studies of instructional methods are either to include interaction variables in the model—interactions between the experimental treatment variable and the important characteristics that vary among students, *e.g.*, sex, family income, natural ability—or to estimate the relationship separately for various groups of students. These techniques have been used occasionally in recent years (*e.g.*, Kelley [80, 1972]; Allison [2, 1976]) and the findings reveal the importance of considering separately the impact of instructional methods on various groups of students. However, little progress has been made (indeed, maybe none can be) in assessing the differential valuation that different students place on receiving increments of cognitive achievement or changes in attitudes.

III. *The Impact of Human Capital and College Environment on Economics Education*

This section summarizes the research findings on the effect of student human capital, faculty human capital, college environment (other capital), and student effort on learning economics. There is, to our knowledge, only one study of the effect of faculty effort on learning economics. Allison [2, 1976] found that instructor preparation time increased student achievement, *ceteris paribus.*

The focus of most evaluative studies in economics education is on new learning technologies. Capital and variable inputs are usually included in the regression equations in order to control for other factors that may be correlated with student learning and the presence of the innovative technique (*e.g.*, students with higher aptitudes may be more inclined to elect innovative techniques if they are given the option, in which case one might erroneously attribute their better performance to the innovation when, in fact, it was caused by their superior aptitude). The number of studies that consider such variables is enormous. Therefore we limit references to them.

A. *Student Human Capital*

Three types of variables have been used to assess the impact of student human capital on economics education output. First, a variety of general aptitude measures have been employed. Most studies find college entrance examination scores *(SAT, ACT)* to be positive and significantly associated with economics test performance. Verbal *SAT*'s seem to be more important than quantitative *SAT*'s for the *TUCE*.[24]

[24] Mathematical aptitude seems to be more important in scoring well on locally constructed tests. This may reflect the emphasis of the *TUCE* on applications.

This finding is supported by the usual non-significance of previous mathematics courses in such regressions. High school class rank, a measure of general aptitude, usually has a positive impact on post-test examination scores in economics. Measures of student maturity, such as age, year in school, and number of previous college credit hours, usually show no relationship to cognitive performance.[25] The few studies that have included measures of students' socioeconomic backgrounds have found such variables as family income and/or parents' education to be unimportant.

Second, measures of prior knowledge of economics have produced mixed results. The effect of high school economics courses on performance in college economics has been widely investigated, but the results are inconclusive. The most recent study concludes that after adjusting for other factors, students who had taken previous economics courses did not begin their principles course with significantly more knowledge, nor did they learn significantly more during the semester [120, John Palmer, Geoffrey Carliner, and Thomas Romer, 1979]. The most obvious predictor of the post-test score in introductory economics is the pre-test score. It is almost always found to be positive and significant. However, when gap-closing measures are used, the pre-test score has been found to exert a negative influence on the post-test score. This suggests that students who know more economics at the beginning of the course learn relatively less during the course, but Becker and Salemi have shown that this apparent paradox may be explained by simultaneous equations bias in most of the studies [18, 1977].

Third, many studies have included student major and indexes of student interest, presumably to test the hypothesis that learning is related to motivation. The results of these tests are mixed, which may reflect the variety of instruments used to measure interest.

B. *Faculty Human Capital*

Several studies have found that years of teaching experience, instructor *TUCE* scores, and instructor's graduate school grades are positively related to learning in introductory economics classes. In addition, the studies that have attempted to explain cognitive achievement with course evaluation scores may be directed toward the question of whether faculty human capital affects student learning. If in evaluations students rate highly the characteristics of instructors that help them learn more efficiently, then we would expect students of professors with higher evaluations to perform better on examinations. Many studies that use multiple instructors of a single course find that the particular instructor does make a difference. Apparently differences among instructors are not entirely captured in the models.

C. *College Environment*

Studies of class size are almost unanimous in finding no influence on test scores. Harry Levin found no difference in cognitive achievement between students in classes of 30 and students in classes of 80 to 120 [90, 1967]. However, students rated the course higher if they were in smaller classes. The latter finding has been confirmed by Mirus [106, 1973]. Lewis and Dahl, while finding the usual lack of impact of class size on *TUCE* performance, discovered a negative effect of class size on students' critical thinking skills [92, 1972]. In general, it appears that students are happier and perhaps learn to think better in smaller classes, but performance

[25] The non-significance of many control variables may be due to multicollinearity, in which case a test of their joint significance would be more appropriate.

on standardized tests is independent of class size.

Attiyeh, Bach, and Lumsden found that students from larger colleges and from colleges with higher schoolwide *SAT* averages did better on the *TUCE* [6, 1969]. In addition, they found substantial variation in performance on the basis of type of school.

Most research has found that two semesters of introductory economics yield greater understanding than one. The latest of these studies [42, Ralph Elliott, M. Edwin Ireland, and Teresa Cannon, 1978] reports that two-semester students at Clemson University do significantly better on each of various functional forms of *TUCE* scores. The gains, however, are small in comparison to a one hundred percent increase in inputs (a second semester).

In most studies of the question, the choice of textbook did not matter. In Saunders's study there was no significant difference in *TUCE* scores for students using any of five leading introductory textbooks listed by author's name [132, 1973, p. 60 and Table 15]. For seniors who had had the introductory course two years earlier, however, those who had had textbooks other than the five named did significantly worse, as did those alumni whose textbook was unknown. Attiyeh, Bach, and Lumsden, on the other hand, found that students using either of two leading conventional textbooks did significantly better than those using any of ten books lumped together in an "all other" category, whereas those with a third leading text did not [6, 1969, pp. 220–21]. As pointed out in *Subsection* IV.D below, they also found a difference between two programmed texts.

D. *Student Effort*

It is not clear whether student effort should be an independent (control) or dependent variable. Indeed, one of the important insights of the application of microeconomic theory to the learning process is that students may well choose to take efficiency gains in the form of reduced time inputs into their economics course [104, McKenzie and Staaf, 1974].

A number of studies have attempted to correlate student effort with test performance, the best of which are by Becker and Salemi [18, 1977] and Allison [3, 1977]. With few exceptions, these studies have found no impact of study time on performance. In a simultaneous equations model, Allison finds low positive elasticities of achievement with respect to student effort [3, 1977]. However, her results indicate that students "learn to learn"; the elasticity, while remaining low relative to that of student ability, quadrupled from the first to the second semester course. Other measures of student effort confirm this conclusion. Attendance and student course load (which measures competing demands on student time) do not appear related to performance on standardized tests.[26]

Grade point averages are sometimes interpreted as measures of student effort, especially when included simultaneously with aptitude test scores. Grade point average (GPA) is usually found to be positively related to test performance, which might indicate that GPA is a better measure of aptitude than student effort.

In sum, it appears that a student's general (especially verbal) aptitude is the most important determinant of learning. Socioeconomic background, prior economics courses, mathematics preparation, class size, textbooks, and study effort do not seem to matter very much. The evidence on the effect of student interest on test performance is mixed.

[26] Class attendance does seem to be important for achievement on *locally* constructed tests, but not standardized ones [119, Donald W. Paden and M. Eugene Moyer, 1969].

IV. *The Impact of Alternative Teaching Methods on Economics Education*

A. *Games and Computer-Assisted Instruction*

The computer has been employed in economics instruction in two general ways: (1) games, simulation models, and demonstration routines (CAI); and (2) study management systems (CMI). CAI includes the popular macroeconomic models of the economy, in which students attempt to set policy parameters in order to achieve a menu of specified macroeconomic goals that involve trade-offs. CMI consists mainly of review routines (short quizzes) with instant feedback to students and individualized instructions to students wanting to know the most efficient study strategy to pursue. It is discussed in the next section.

Because of their sequential nature, computational requirements, and record-keeping needs, many games and simulations utilize computer facilities, especially time-sharing. Games, however, can be played without the use of computers. Most games involve role playing—a stock-market trader, a manager of a firm under various degrees of competition, an urban planner, or an advisor to the finance minister—where the student is required to map out strategies over time. Thus games tend to emphasize the interactions in an economic situation and are more likely to teach analytical methods successfully than recognition and understanding of economic terms and concepts.

In a 1974 review of the computer-assisted instruction (CAI) literature, Soper listed 45 published and unpublished reports of the use of CAI in teaching economics [152, 1974]. Most of the reports described the use of games and simulations in teaching principles of economics or intermediate macroeconomics. Since almost all of the games that have been evaluated use the computer, we henceforth use CAI to mean games and computer-assisted instruction.

There are several reasons to expect CAI to influence learning. Instant feedback (at least with time-sharing), novelty, and convenience all should serve to alter students' learning functions. Quick reinforcement of correct responses or immediate explanation of incorrect responses has long been one of the most widely accepted principles for improving learning. The novelty of computer-assisted instruction may improve student attitudes and, in turn, learning. The convenience of time-sharing may influence learning by permitting students to use their time more efficiently.

Simulation models, which apply the principles gleaned from comparative statics to a dynamic world, may give students an appreciation for the difficult problems confronting policy-makers. Computer oligopoly games instill respect for the dynamic strategies that complicate the real industrial world and require complicated models to characterize reality. Games are (usually) less abstract than lectures and may stimulate learning because they are realistic. Finally, most students seem to like games, and student attitudes may affect cognitive performance [23, Samuel Bowles, 1970].

The experiments testing the effectiveness of games and/or computer-assisted instruction assess the impact of CAI on (1) cognitive evaluation instruments, such as the *TUCE*; (2) student attitudes; (3) the lasting effects of greater cognitive achievement of students who experienced CAI; and (4) the distribution of benefits between high- and low-achieving students. Overall, the conclusions about the effectiveness of CAI in improving understanding of economics are pessimistic.

Wentworth and Lewis carefully evaluated the noncomputer learning game

called Marketplace at two Minnesota junior colleges during 1971–72 using multiple linear regression analysis and a sample of 149 students divided between two instructors and users and nonusers of the game (four cells) [176, 1975]. They found that playing the game as a substitute for eight class periods of conventional lecture instruction has a statistically significant impact on students' gain in *TUCE* scores during the semester. The effect, however, was negative. Students attending the lectures gained 1.43 points more on the *TUCE* during the semester after controlling for intelligence *(ACT)*, age, college, high school economics background, sex, and student interest in economics.

The most complete study of CAI is reported by Davisson and Bonello [40, 1976]. They describe the development of computer-assisted instruction in principles of economics at Notre Dame during the 1973–75 period and report the results of an evaluation of its cost effectiveness. Review routines comprise the major part of the CAI program at Notre Dame and consist of multiple choice questions with prompts and verification statements. There are also demonstration and game simulation routines. The impact of CAI on cognitive performance in the Notre Dame experiment was evaluated using the *TUCE*. The findings were similar to many of the other experiments with CAI—no significant difference between the experimental and control groups.

John Chizmar *et al.* [31, 1977] adapted Alan Blinder's [19, 1973] methodology for separating shifts in the production function from shifts in the coefficients of variables included in the model and found that Illinois State students using the Notre Dame CAI package performed slightly better on the *TUCE;* but they did this *in spite of CAI*, primarily because of greater ability.

In a regression analysis of the effectiveness of CAI games in a macroeconomics course at Arizona State University, Steven Cox found no effect of CAI games on student performance on multiple choice tests [36, 1974]. He experimented with nonlinear relationships between the independent and dependent variables, but found that a simple linear model produced the same conclusions as the more complex specifications.

In an evaluation of the effectiveness of one micro and two macro games at St. Olaf College, E. David Emery and Thomas Enger assessed student performance on various *types* of multiple choice questions [43, 1972]. They found that CAI led to higher achievement on questions requiring analysis and policy decisions.[27] However, in a follow-up to the St. Olaf CAI experiment, Emery and Jean Schoene found that the initial advantage of CAI students had completely disappeared over 16 months [44, *c.* 1974].

Most of the reports of CAI activities indicate that students enjoy playing computer games. However, Davisson and Bonello's extensive analysis of the impact of CAI on student attitudes revealed no differences between the CAI users and control groups [40, 1976].

On the question of the distribution of benefits from CAI, Cox found that all students except those who earned C grades benefited [36, 1974]. Emery and Enger found no difference in benefits on the basis of student aptitude [43, 1972]. Bonello, Davisson, and Swartz report that lower achievement students in the Notre Dame experiment benefited from CAI, while better students did not [20, 1978]. This occurred in the presence of a nonsignificant overall effect and illustrates why it is important to identify precisely the tar-

[27] Because students in the experimental group did not do significantly better on all types of questions, they concluded that their better performance on some questions was not due to an incentive (Hawthorne) effect. There is no reason to expect incentive effects to influence only one type of learning.

get group and assess the impact of educational experiments on specific subgroups of students.

Davisson and Bonello attempted to assess the costs of implementing CAI [40, 1976]. They estimated that start-up costs were $20,000 in 1973–74, but their estimate is based on a very low valuation of faculty time ($1,500 per month, implying a $13,500 academic-year salary, which in 1973–74 was about the starting salary of assistant professors). The faculty who have the skills to develop CAI are also likely to be the faculty who have skills sufficient to insure a high opportunity cost of time during summers.

Operating costs can be assessed on either a budgetary or economic basis. Budgetarily, CAI will probably cost much more than conventional instruction because universities tend to assess user charges for computer use but not for the alternatives such as library use. However, in real economic costs, the difference may be much less. An input that can be dispensed with if CAI is adopted is graduate teaching assistants. Davisson and Bonello found that CAI was no more expensive than graduate teaching assistants meeting discussion sections once a week. On the other hand, if the opportunity cost of graduate TA's is very low to a department (that is, they are there and supported financially, not to provide instruction to undergraduates but because the faculty wants a graduate program for some other reason), then CAI will be more expensive.

Overall, games and CAI in economics do not appear to be the route to nirvana they were once expected to be. CAI appears to generate no more (or no less) cognitive achievement,[28] but probably costs more than conventional pedagogical methods. In addition to instructor and computer-facility costs, most games and computer-simulation exercises are student-time intensive. They are unlikely to be generating benefits in the form of released student time.[29]

B. *Computerized Study Management*

There have been at least three large-scale efforts to utilize computer facilities to individualize and improve student study management. Kelley [78, 1968; 80, 1972; 82, 1973] reports on the effectiveness of the Teaching Information Processing System (TIPS) at the University of Wisconsin, Bernard Booms and D. Lynne Kaltreider [21, 1974] on Computer Generated Repeatable Testing (CGRT) at Pennsylvania State, and Donald Paden, Bruce Dalgaard, and Michael Barr [118, 1977] on the computer study management system (PLATO) at the University of Illinois. These three experiments have been conducted at large state institutions, where large classes and impersonal atmospheres are more likely to create need for individualization of instruction.

Computerized study management systems usually administer periodic short quizzes and then provide rapid feedback to students. Kelley's system evaluates students' learning problems (from "surveys" that do not count toward students' grades) and provides a personalized assignment suited to the level of understanding of each student. In addition, such programs usually provide record-keeping and test analysis and grading services.

Study management systems are expected to improve student learning by "directing student activity." This implies that someone other than the student

[28] One possible explanation for the negative findings can be found in a warning from one of the pioneers in developing computer games, Myron Joseph, who cautioned that "there is some danger that the complexity permitted by the computer will obscure the learning objectives of simulation" [73, 1970, p. 95].

[29] Short, non-computerized classroom games, however, may be very inexpensive. Unfortunately there is an absence of solid controlled assessments of such games, so little can be said about their efficiency.

knows best how the student learns most efficiently. Study management systems could influence learning by improving student attitudes or by providing individualized help. In addition, Kelley uses the TIPS system to inform the lecturer and teaching assistants of student progress. The study management systems also encourage students to keep up, thereby avoiding the deleterious effects of cramming.

Kelley performed controlled experiments of the effectiveness of TIPS and found it had a significant positive effect on achievement [79, 1970; 80, 1972]. The effectiveness of TIPS is implemented by providing additional, less difficult assignments to low-achieving students, and fewer, more difficult assignments to high-achieving students, thereby directing teaching and student resources to the place where their marginal product is higher. Kelley reports that TIPS is not more expensive than conventional instruction because it may cut back on assignments to bright students while increasing assignments to low achievers [80, 1972, p. 426]. A follow-up test a year later indicated that the TIPS cognitive differential was maintained [80, p. 426]. Most of the benefits of TIPS appear to accrue to low achievers [80, p. 425].

The Pennsylvania State system (CGRT) is similar in many respects to TIPS, but the computer tests count in students' grades, while Kelley uses them only for study practice. Booms and Kaltreider found higher mean *TUCE* scores for CGRT students than for a control group [21, 1974]. Student opinions of CGRT were favorable, but the system cost almost 50 percent more than conventional instruction.

PLATO consists of instructional sequences and elaborate testing and record-keeping capabilities. The Paden *et al.* evaluation of PLATO found that mean scores on an unspecified cognitive test were higher, but they did not attempt to hold human capital and utilization rates constant [118, 1977]. This deficiency is dangerous in view of the findings of Chizmar *et al.* that students who elect computer-assisted instruction may have characteristics that permit them to do well in spite of CAI [31, 1977].

In sum, the computer-aided study management systems seem to perform much better than games and simulation routines. Although there were no clear-cut cost advantages to computerized study management, it does not appear to be significantly more expensive.

C. *Programmed Instruction*

Programmed instruction, brainchild of the behavioral psychologist B. F. Skinner (see Skinner and J. G. Holland [148, 1961]) has been the subject of one major and a number of minor studies in economics education. The major study, by Attiyeh, Bach, and Lumsden (A-B-L) [6, 1969; 7, 1970], found a large gain in efficiency from using programmed instruction. The minor studies have not seriously challenged this result.[30] Nevertheless, programmed instruction is not widely used in economics.

Programmed instruction is based on certain psychological principles of learning, particularly positive reinforcement,

[30] In the chief of the minor studies, Attiyeh and Lumsden showed that programmed instruction written for high school use was superior to the alternative in a Palo Alto school [8, 1965]. Bach found that a superior teacher could outperform the better of the two programmed texts used in the study by Attiyeh, Bach, and Lumsden [6, 1969]. Soper [150, 1973] and Donald Darnton [39, 1971] have developed methods of overcoming student antipathy to programmed instruction. Other studies include Stephen Buckles and Marshall E. McMahon [27, 1971], Paden and Moyer [119, 1969], Fels and Dennis R. Starleaf [51, 1963], Fusfeld and Gregory Jump [54, 1966], Thomas Havrilesky [66, 1971], Dennis Weidenaar [169, 1972], Attiyeh and Lumsden [10, 1972], Lumsden [95, 1967], Phillip W. Tiemann, Paden, and Charles J. McIntyre [164, 1966], and William C. O'Connor [117, 1974].

active involvement of the student, prompt feedback, encouragement through psychological rewards, and instruction of complex ideas by breaking them down into small increments. The material is presented in a succession of "frames," each usually consisting of one or two sentences with blanks for the student to fill in. The students find out immediately whether their answers are correct by looking at the bottom of the page or on the next page. They almost always *are* correct. They therefore are supposed to get a feeling of accomplishment that will encourage them to go on, and on the infrequent occasions that they are wrong, their errors are corrected immediately. Programmed instruction contains a great deal of irregular repetition to reinforce learning of important concepts. In contrast to the usual encyclopedic textbook, the writing of programmed instruction requires the authors to decide exactly what they want to teach and to omit everything else, a characteristic designed to make learning more efficient.

A-B-L conducted a nationwide experiment on programmed instruction involving 48 schools and 4,121 students. Each participating school established three test groups. Group I used one of two programmed texts exclusively for three weeks, studying a total of 12 hours per student on the average. At the end of this period, the students were tested (and from then on received conventional instruction). Group II students received conventional instruction supplemented with the programmed learning text (on which they spent an average of eight hours). Students in Group III had only the conventionally taught course. Groups II and III were tested after they had had an average of seven weeks of their respective courses.

A-B-L used regression analysis with the number of correct answers on a preliminary version of the *TUCE* as the dependent variable. All the variables representing student characteristics (*e.g.*, educational level, sex, *SAT* score) were statistically significant at the 95 percent confidence level and quantitatively important. *SAT* score was the most important single determinant. In terms of school characteristics, average freshman entrance examination score, school size (with a positive coefficient), and school type were statistically significant. The coefficient for state colleges was positive and statistically significant, the coefficients for liberal arts colleges and for large state universities were not significantly different from zero, and the coefficient for "prestige" schools was significant and negative.

The major results were: (1) on the average, spending 12 hours studying a programmed text over a three-week period was approximately equivalent to spending seven weeks in a conventionally taught course; (2) students using programmed learning performed relatively better on applications than on recognition-and-understanding questions; and (3) students had a positive attitude toward programmed learning, generally considering it more effective than interesting.

The A-B-L study is notable for being one of the few in economics education based on a large sample of schools and students. It is also notable for having been largely ignored by a profession that normally takes a great interest in questions of efficiency. Despite the finding that programmed instruction can accomplish almost as much in three weeks as conventional instruction in seven, there was no rush by economics professors to adopt it.

D. *Personalized System of Instruction*

The personalized system of instruction (PSI) pioneered by the psychologist Fred S. Keller [77, 1974] is quite different from Skinner's programmed instruction but is based on similar principles. The enthusiasm it has generated in fields other than

economics, though reminiscent of the early days of teaching machines, appears to go deeper and have more staying power.

Like programmed learning, PSI requires instructors to decide exactly what they want students to learn. Students are given short assignments accompanied by specific statements of behavioral objectives.[31] Students study the assignments at their own pace. When they feel ready on the first assignment, they take a test which is immediately graded for mastery (usually defined as 90 percent). A student who passes goes on to the next assignment. Students who do not pass are recycled—*i.e.*, they study the assignment some more and take another test, repeating the procedure as often as necessary to pass. The grade in the course depends on the number of assignments completed. Proctors (usually undergraduates who have already had the course) are available to help the students and to administer and grade the tests. There are few, if any, lectures. As with programmed instruction, feedback is immediate, and students are expected to get a sense of satisfaction from achieving mastery (and be motivated by it to go on). PSI has been used in many fields and schools. In the vast literature on PSI, controlled experiments typically show that students like PSI and think they learn more from it than from conventional instruction. Objective data show that they have in fact learned at least as much, sometimes more. They work harder but feel the extra effort is worth it.

Fels's PSI course [49, 1974] (see also Evans Jenkins [69, 1977]), in contrast to the one at Harvard to be described next, followed the Keller model closely. Although the results of an elaborate evaluation were similar to those of PSI courses generally, there was no objective confirmation of the students' impression that they had learned more; contrary to the usual experience, the students worked no harder than in a conventional course; and the chief educational gain went to the proctors, who apparently learned a good deal more than they would have from taking intermediate economics courses. (See Siegfried and Stephen H. Strand [143, 1976] and Siegfried [141, 1977].)

Self-pacing is a fundamental part of the PSI method. Quick students are not held back by slow ones and may finish the course early. Slow students are not compelled to stay in lockstep with the class. All students can work at times most convenient for their other activities.

Self-pacing can be adopted without going the whole PSI route. In the fall of 1972, Harvard began an experiment in which self-paced instruction was used over a three-year period in three sections each with 25 to 30 randomly-selected students (Allison [2, 1976; 3, 1977]). The distinguishing features of the program were: (1) the course was divided into only eight units per semester for separate testing (usually PSI courses are broken into 20 or 30 units); (2) the sections had regular class meetings with voluntary attendance; and (3) upper-classmen and graduate students were used as graders.

For evaluation it was assumed that students allocate effort among courses and other activities to maximize some utility function. A three-equation model was constructed with an effort equation, an achievement equation, and an enjoyment equation; later a fourth equation was added for major. These simultaneous equations were designed for estimation of a production function.

The self-paced effect on student enjoyment was found through repeated questionnaires to be largely attributable to a

[31] That is, the students are told what they are expected to be able to do in operationally meaningful terms, such as: given the input requirements in manhours for two countries and two commodities, determine the comparative advantage of each. "Understand the model of comparative advantage" won't do; it is too vague.

Hawthorne effect.[32] Self-pacing increased performance on tests by 15 percent with the differential increasing two years after the course. The advantage was greater for freshmen and for students with *SAT* scores below 700 than for more advanced and better students, but the differences were small and variable. Controlling for effort showed that self-pacing actually increased students' learning instead of merely inducing them to work harder. The results are consistent with the hypothesis that the crucial feature of self-pacing is the interaction between grader and student, a directed form of one-to-one instruction.[33]

The positive results from self-pacing obtained at Harvard, together with the large number of successful experiments in other fields, suggest that self-pacing has a significant contribution to make to economics education.

E. *Video*

A televised course on "The American Economy" with John R. Coleman as the principal teacher ran on 182 CBS stations, 54 educational stations, and 5 independent stations during 1962–63. Of the 160 half-hour lessons, 128 were on economic content, the other 32 on teaching methods. The total audience was over a million, with 5,000 taking the course for credit at 361 colleges and universities. The results were evaluated in three separate research projects.

In a study reported by Saunders, the *TEU* was given to 71 television students, 113 Carnegie-Tech students taking a one-year course in economics, and a control group of 73 school teachers "substantially identical to the TV students, but who had not watched 'The American Economy' . . ." [127, 1964, p. 398]. The TV group scored approximately the same (40.9 questions right out of 50 with a standard deviation of 4.8) as the Carnegie-Tech sophomores (40.8) and significantly higher than the control group (33.9). A multiple regression analysis identified one other variable besides taking the TV course for credit that significantly affected the outcome, namely, a previous course in economics.[34]

Campbell R. McConnell and John R. Felton reported a controlled experiment consisting of 27 students who took the CBS-TV course for credit matched with 27 students from a large live lecture course at the University of Nebraska who were similar in grade average, number of college hours completed, and course of study [100, 1964]. On the *TEU*, there was no significant difference between the two groups, but on 120 multiple-choice questions prepared by the authors, the live groups did significantly better on the 60 conceptual and 40 problem-analytical questions. Consistent with the *TEU* findings, there was no difference between the groups on the 20 factual questions. Since the TV course did not aim to go much beyond what the Committee for Economic Development's Task Force Report [34, 1961] specified high school students should know (omitting such concepts as marginal cost and marginal revenue), the TV course was evidently successful in its aims even though less successful in achieving the aims of the introductory college course. This study is a useful complement to the one by Saunders. The authors con-

[32] *I.e.*, students like to take part in experiments. This advantage of self-pacing would be lost once the method became routine.

[33] In another report Allison surveyed self-paced introductory courses at seven schools [1, 1975]. She concluded that the reports on them were more useful as descriptions of the forms and functions of self-paced courses than as evidence of their educational benefit.

[34] The value of the study is limited not only because it was confined to students and teachers in the Pittsburgh area but also because it used the *TEU*, a test designed for high school students. Nevertheless, the substantial correlation found between *TEU* scores and grades based on essay examinations (.70 for Carnegie-Tech students, .82 for the TV group) is reassuring.

firmed Saunders's findings that the TV students scored just as high on the *TEU* as students in a conventional course, but on questions designed for college rather than high school students, those in the regular course did better.

The most ambitious study of the TV course was a survey by the National Opinion Research Center reported by Bach and Saunders [13, 1965]. About 20 percent of the 65,000 high school social studies teachers watched the TV course at one time or another, but only 5 percent watched once a week or more. Over 5,000 students took the course for credit with 4,400 completing it successfully, 1,800 of whom were school teachers. A 25-item version of the *TEU* was given to 3,966 teachers. In a multiple regression analysis (in which R^2 was only .15), watching the TV course was by far the most important variable, its coefficient being twice as large as that for taking five or more college courses in economics. One or two previous courses made no significant difference, presumably because of forgetting. Taking the TV course for credit, as distinct from only watching it, had a negative coefficient, apparently because the first group was interested in credit, the second in learning.

Although the TV films were subsequently made available for educational use, "The American Economy" was essentially a one-shot affair, enormously expensive, apparently well worth the dollars spent, but not to be repeated for a long time. There is nothing in the research results on it to indicate that TV lectures are superior to live lectures, but they do suggest that TV can be just as good.

Although closed-circuit TV is now widely used to teach elementary economics in schools with large enrollments, published evaluations are scarce. An experiment in 1964–65 reported by McConnell used a matched-pair technique to compare teaching by McConnell on television; McConnell in a large, live, lecture class; McConnell in a small, live, lecture class; and graduate assistants at the University of Nebraska [99, 1968]. In terms of teaching as measured by 170 multiple-choice questions, the differences were not statistically significant. In terms of student attitude toward teaching method, TV was significantly worse than each of the other options. McConnell stated that TV was cheaper but gave no data. McConnell and Charles Lamphear reported a follow-up experiment at Nebraska in which 440 principles students were given the option of a televised lecture course or a course with no lectures at all [101, 1969]. An Omnibus Personality Inventory test indicated no significant difference between the 354 choosing to view the lectures and the 86 choosing the alternative. The TV lectures were textbook oriented. For evaluation, a battery of multiple-choice questions was used, including 170 internally generated items, the *TEU*, and items provided by the committee developing the *TUCE*. There were no statistically significant differences at the 5 percent level. Attitude surveys revealed a significant preference for the lectureless method. A subsequent report by Lamphear and McConnell indicated that the lectureless group and the TV group did better than all students taught by graduate teaching assistants the previous year [87, 1970].

If true, the Nebraska findings would be very interesting, but it is not clear how much credence can be put in them. Taken at face value, they suggest that textbook-oriented lectures, whether live or on TV, have a value-added close to zero. But they are based on one instructor at one university.[35] They are, however, consistent with the findings of Attiyeh, Bach,

[35] There are other questions that might be raised about the Nebraska studies. The groups were not selected at random; the Hawthorne effect could account for some of the results; and the statistical methods are not highly sophisticated.

and Lumsden on programmed instruction [6, 1969]. They are also consistent with the hypothesis that different students learn in different ways.

Paden and Moyer found no differences at the University of Illinois in amount learned between groups taught by live lectures, TV, and programmed instruction, but the attitude toward live instruction was more favorable than toward the other two [119, 1969].

To conclude, the hypotheses that students learn as much from TV lectures but prefer live lectures are plausible, but sophisticated testing of them in economics has been limited.[36]

F. *Specification of Instructional Objectives*

The premise that course objectives should be stated in terms of specific student behavior has intuitive plausibility. If instructors decide in advance exactly what they are trying to accomplish, they may improve their chances of achieving it, and if the students are informed of the goals, the efficiency of their efforts may be increased.[37] Ideally the instructor specifies observable behavior on the part of the student that represents not only the goal but also the means for telling whether the goal has been achieved. In the words of Saunders: "To be complete, an instructional objective should also contain a statement of the *conditions* in which the student should be able to do it, and a statement of the *criteria* that will be used to judge how well it is done" [134, 1978, p. 68, Saunders's emphasis]. For example, "Given a price index with one base year indicated, the student will correctly convert the index numbers to those of another base year when the new base year is specified" [134, p. 72]. Saunders then gives three multiple choice questions illustrating how to measure accomplishment of this objective.

The goals of a liberal arts education cannot, of course, be reduced to a series of specific behavioral objectives. There is danger that concentration on those tasks that lend themselves to such specification may divert attention from other important purposes. (See Yates [178, 1978]. *Cf.*, *Section* I.B. above.) Whether specifying behavioral objectives is useful is a testable hypothesis. The evidence from three studies is inconclusive. Dennis L. Nelson [114, 1970] found positive value from specifically stated behavioral objectives; James Phillips's study [121, 1972] was inconclusive; and Cheryl A. Casper [30, 1977] had negative results.

G. *Graduate Student Instructors*

Graduate students are used as teachers and teachers' aides in most major universities in the United States. GSI's may be less effective instructors because of their inexperience in classroom teaching, competing demands for their time that take priority over their teaching responsibilities (*i.e.*, their own study for the Ph.D.), ignorance of effective teaching techniques (which may be related to their inexperience), and weaker understanding of the substantive material covered in the classroom. On the other hand, GSI's may compensate for their lack of experience by their enthusiasm, their efforts to identify what the students do not understand, their approachability *vis-à-vis* regular faculty, and the greater rapport they frequently develop with their class [166, H. Tuckman, 1975].

There have been published evaluations

[36] Effective use can be made of video in teacher-training programs, which are discussed in a later section of this survey.

[37] A reader of the first draft of this article argued that stating objectives deprives students of training in distinguishing important from unimportant material. It may be replied: if that is the objective, the students should be so informed (otherwise distinguishing the important from the unimportant degenerates into "psyching the professor out") and the course should be designed to achieve it.

of the relative effectiveness of GSI's in economics at six institutions—Princeton, Hebrew University, Carnegie-Mellon, Indiana, Florida State, and Nebraska. The six studies all employ the same basic methodology: each compares the performance of students taught by GSI's with students taught by regular faculty, controlling for other differences that may affect relative student performance.

Wallace Oates and Richard Quandt compared the performance of students in classes taught by advanced graduate students with that of students in classes taught by regular Princeton faculty for eight semesters, 1965–69 [116, 1970]. The GSI's at Princeton had all completed their comprehensive examinations for the Ph.D. and attended a weekly meeting of all instructors in the course, at which time the subject matter for the coming week, various techniques for presenting this material, and any particular problems that had been encountered were discussed. The sample consisted of 2,336 students, about two-thirds of whom were taught by GSI's. Since the basis for comparison was performance on a common final examination that varied from semester to semester, comparisons were made separately for each semester. Oates and Quandt found that students of GSI's did better in one semester, students of regular faculty did better in two semesters, and there was no statistically meaningful difference in the other five semesters. Regression analysis to explain relative student performance each semester, controlling for grade average in other courses and *SAT* scores, confirmed the conclusion of no systematic difference in the performance of students of GSI's and students of regular faculty.

Among the GSI's there was enough variation in previous teaching experience to determine that those students of GSI's who had more experience did better than rookie instructors. Since this finding—that experience counts—is confirmed in other studies, it appears that there are balancing effects at work: (1) the lack of experience of GSI's hinders the performance of their students, while (2) the enthusiasm, approachability, interest, *etc.*, of GSI's helps their students, so that the net difference between GSI's and regular faculty is negligible. The Princeton experience may not be generalizable to the wide variety of GSI teaching experiences in the United States due to the rather select group of GSI's (very advanced students) who teach at Princeton.

Morawetz compared the performance of 1,930 undergraduate students in 66 different classes at the Hebrew University from 1967–75 (excluding the war year of 1973–74) [108, 1977]. Thirty-five of the classes were taught by 12 different faculty members and 31 were taught by 16 different GSI's. These GSI's had all completed at least two years of graduate work in economics but received little guidance in teaching. In six of the seven years there was no statistically meaningful difference in grades on a common final examination at even the 10 percent significance level between students taught by faculty and students taught by GSI's.[38] In the seventh year the students taught by faculty scored higher, but a regression analysis to control for student aptitude demonstrated that this effect was due to the superior students in regular faculty classes that year. In a comparison *within* the GSI group, Morawetz found little difference in student performance based on the level of experience of the GSI's [108, 1977].

Saunders compared the performance of 2,136 students of regular faculty and GSI's on the *TEU* and the *TUCE* at Carnegie-Mellon University (CMU) during 1964–69 [130, 1971]. Sixty-three classes were

[38] A surprising finding was that the performance of students in classes taught by faculty had a higher variance than the performance of students in classes taught by GSI's.

staffed by faculty and 28 were staffed by graduate students. At CMU the instructors were given some advice on teaching, but substantially less than Princeton was providing. Difference-between-means tests, supported by multiple regressions controlling for student attributes, indicated that the students of faculty and the students of GSI's performed comparably.

The CMU results were confirmed, with minor exceptions, for thirty GSI's teaching about half of the 8,895 students in two introductory economics courses at Indiana University over eight terms, 1971–75 [133, Saunders, 1975]. Holding other things constant, students of the GSI's performed as well as students of regular faculty in the first semester course and did significantly better in the second semester course. Since most of the GSI's started teaching in the first semester course and then moved to the second semester course, the Indiana results are consistent with the hypothesis that teaching ability increases with experience.

Howard Tuckman compared the teaching of five faculty and three GSI's in twelve macroeconomics courses at Florida State during 1972–74 [166, 1975]. There were 548 students in the study. Tuckman used multiple measures of performance because GSI's and faculty may differ in teaching skills. Using regression analysis, he found that years of teaching experience was statistically significant in explaining differences in both cognitive achievement and student attitudes (in the expected directions), but the effects were small. Inserting a binary variable into the regressions for faculty status, Tuckman found no difference between students of faculty and GSI's in either cognitive or attitude dimensions. However, since faculty status and years of teaching are highly correlated, the difference between GSI's and faculty can be assessed only by observing the combined effect of years of experience and faculty status. When experience was removed from the regression model (its effect presumably then captured by the faculty status variable), the results indicated that students of GSI's learn less but have more favorable attitudes. This difference seems to be a function of GSIs' lack of experience rather than their status as graduate students.

McConnell [99, 1968] and Lamphear and McConnell [87, 1970] compared the performance of students of GSI's with students taught in a large televised classroom section; some live classes taught by McConnell, who has written a highly successful textbook and done considerable research in economics education; and a class taught without lectures at all. The *TEU* showed no difference between students of GSI's and faculty members; a test of 90 questions drawn from the *TUCE* test-bank revealed that GSIs' students performed worse than the control groups. This study did not control for teaching experience or attributes of the students in the classes. Although McConnell and Lamphear concluded that the GSIs' students did worse than the students in the alternative classes, this finding is true for only one of the two test instruments used. If the finding that the students of GSI's at Nebraska did worse than the students of alternative instructional techniques is not explained by better than average instruction in the control group, it might be because GSI's at Nebraska in the 1960's were not required to have passed their Ph.D. comprehensive examinations and were given virtually no advice and training in teaching.[39]

Evaluations of the effectiveness of substituting GSI's for regular faculty in teaching (mostly principles of) economics reveal that: (1) "While there are no doubt better and worse teachers, they do not divide themselves neatly into two groups with

[39] In the 1970's, however, Nebraska has been one of the dozen schools pioneering such training in teaching economics.

the labels of faculty and graduate students" [116, Oates and Quandt, 1970, p. 138]. (2) Instructor experience seems to improve the cognitive performance of students. Coupled with the findings of no difference in performance between the students of faculty and GSI's, this suggests that GSI's have compensating attributes that balance their lack of experience. (3) The results are ambiguous on whether undergraduate students like GSI's more or less than faculty. (4) More experienced GSI's (and perhaps better trained GSI's, if experience is interpreted as a method of self-training) seem to be better instructors. Those schools which offered special training to GSI's on their teaching and/or required more advanced students to teach (in which case they had observed more teaching themselves) seemed to have greater success with GSI's.

A direct test of the effectiveness of teacher training for GSI's was conducted by Lewis and Charles Orvis [94, 1973]. During the fall of 1971, seven GSI's taught 3 of the 4 weekly classes of 14 sections of principles of economics at the University of Minnesota. The GSI's were given no help in instruction. Students were pre- and post-tested using the *TUCE*, and data on student characteristics and attitudes were collected for all students. The same seven instructors were then used in the winter 1972 quarter to teach another 14 classes. During this quarter the seven GSI's were exposed to an integrated teacher training program (TTP), consisting of student evaluations and feedback to the instructors, videotaped classroom observations, and instructional seminars, which had been developed for training and assisting graduate student teachers. Tests on pre-test scores and student attributes indicated that the control (fall 1971) and experimental (winter 1972) groups of students were similar.

Mean post-*TUCE* scores and change-in-*TUCE* scores were significantly higher for the winter quarter students than for the fall quarter students. Multiple linear regression analysis holding constant pre-*TUCE*, *ACT* score, grade point average, age, sex, and instructor's evaluation score confirmed the superior performance of students when the TTP was instituted. The data also revealed that the GSI training system had a significant favorable influence on instructors' ratings (on the Purdue Rating Scale).

The main problem with the Lewis-Orvis analysis is the possibility that the increased experience of the GSI's from fall to winter quarters is what actually caused the improvement in their teaching performance rather than the TTP. Otherwise the controls between the fall and winter quarter were excellent.

The evidence from the Minnesota experience, as well as the relatively better performance of GSI's at those schools that offer more advice on teaching, seems to suggest that at least a moderate amount of training may be effective.

The costs of GSI training programs appear to be quite modest. The Minnesota program, as well as other programs developed at Wisconsin, Harvard, Purdue, and a dozen or so other universities, requires relatively little graduate student time. To further reduce the costs of teacher training of GSI's, the JCEE, with the financial assistance of the Sloan Foundation, has developed a *Resource Manual for Teacher Training Programs in Economics* [137, Saunders, Welsh, and Hansen, 1978], which provides the materials necessary for conducting a TTP workshop.

V. *Lasting Effects of Economics Education*

The value of liberal education does not consist solely, or even mainly, of the knowledge retained. But the case for special emphasis on economics rests on its high marginal social product in a mixed economy, the functioning of which de-

pends on government policies strongly affected by public opinion.[40] The extent to which economics training has lasting effects is, therefore, an important question to investigate.

That a college course in elementary economics has *any* lasting impact on the ability of citizens to deal intelligently with policy issues was challenged by Stigler, who advanced an interesting hypothesis: "Select an adequate sample of seniors (I would prefer men five years out of college), equally divided between those who have never had a course in economics and those who have had a conventional one-year course. Give them an examination on current economic problems, not on textbook questions. I predict they will not differ in their performance"[41] [159, 1963, p. 657]. The kind of examination Stigler had in mind was not a current events quiz but an analytic exercise.

Two major studies and some minor ones[42] have shed light on the lasting effects of college economics courses. In the case of Bach and Saunders, the findings were part of a broader study [13, 1965]. In a multiple regression analysis of data from a 25-item version of the *TEU* taken by 3,966 high school teachers of social studies, Bach and Saunders found that having taken one or two economics courses in college did not add significantly to the teachers' score [13, 1965, p. 349]. Having taken three or four college courses added an amount that was statistically significant but quantitatively small relative to other variables. Five or more courses added a quantitatively significant amount to the score—but not nearly as much as having watched the television course, "The American Economy," three or more times a week during the preceding year. The test instrument used was not appropriate for investigating Stigler's hypothesis.

The one major study devoted mainly to lasting effects was carried out by Saunders [129, 1971; 132, 1973]. He used multiple regression analysis to compare three pairs of students or alumni. In each pair, one group had had an introductory college course in economics whereas the other had not. One pair included a set of sophomores who had just completed the introductory course and a set who had not; the second of seniors, one group of which had had the course two years earlier; the third of alumni five years after graduation. The measure of output was a hybrid version of the *Test of Understanding in College Economics* consisting of 33 questions cho-

[40] In *Section* II.C above, McKenzie was quoted as saying that people do not have enough incentive to maintain the human capital acquired through economic education and in any event will vote their own private interests [103, 1977, p. 10]. But an education should develop intellectual interests and at least lead people to a rational understanding of what their private interests are.

[41] This hypothesis was the outgrowth of Stigler's criticism of the elementary course quoted in the introductory section of this survey.

[42] A number of studies have been made of the lasting effects of high school economics (Bach and Saunders [14, 1966]; Moyer and Paden [111, 1968]; Saunders [128, 1970]; Weidenaar and Joe A. Dodson, Jr. [170, 1972]; C. D. Harbury and R. Szreter [63, 1968]; Attiyeh and Lumsden [9, 1971; 10, 1972]; Palmer *et al.* [120, 1979]). Stuart Wells characterized the results as "inconclusive" [172, 1974, p. 9]. Saunders and Bach in a study of 96 seniors who had taken a one-semester required course in economics as sophomores at Carnegie-Mellon University found that for those who took no more economics, the average score on the *TEU* declined a little over 10 percent *ceteris paribus* (about half the value added by the introductory course) but was still markedly higher than before taking any economics [135, 1970]. As Bach and Saunders noted, the *TEU* is extremely simple relative to the content of the Carnegie-Mellon course.

In a forthcoming paper, Andrew I. Kohen and Paul H. Kipps estimate the decay rate of microeconomic knowledge acquired in an introductory course at James Madison University as 20 percent per year [85, 1979]. In another forthcoming paper, Eleanor D. Craig, James B. O'Neill, and Douglas W. Elfner of the University of Delaware find that class size did not affect retention [38, 1978]. (This is contrary to an earlier finding by Craig and O'Neill [37, 1978]). They also report that "the juniors who were freshmen during the course, outperformed the seniors (who had been sophomores)" [38, 1978, p. 2].

sen from the 132 in the *TUCE* to avoid technical analysis and specialized terminology. Twenty-three schools participated with a total of usable responses of 1,220 for sophomores, 955 for seniors, and 1,257 for alumni. Each respondent answered a detailed questionnaire, which provided information about variables hypothesized to be associated with differences in performance on the hybrid *TUCE*, interest in economics, and reading habits.

Saunders found that introductory economics courses did have a lasting impact on test performance. It diminished over time. Other things remaining the same, sophomores with an introductory course in economics scored 6.18 points higher on the hybrid *TUCE* than comparable sophomores without such a course; seniors who had had such a course two years previously scored 4.76 points higher than the corresponding control group; and alumni five years out of college scored 3.24 points higher if they had had an introductory course. Other things constant, each letter grade in introductory economics was significantly associated with a difference in total *TUCE* score of 2.00 for sophomores, 1.69 for seniors, and 1.09 for alumni. Each course taken beyond the introductory level was associated with a difference in test performance of .53 points in the senior sample and .48 in the alumni sample. A difference of one letter grade in each such course was associated with test score differences of .18 and .15 for seniors and alumni respectively. Among variables consistently and significantly associated with test scores in all three samples were the "intellectualism" of a school's student body, general interest of the person in economics as a subject, and reading the economics or business section of a weekly news magazine. Introductory economics courses and course grades did not appear to have a lasting impact on reported general interest in economics as a subject.

Two limitations of Saunders's study should be noted. Since he used a cross section of three sample groups at a single time rather than a longitudinal survey, the results may be suspect if the content or quality of the courses changed from the alumni group to the sophomores sampled. The use of questionnaires mailed to alumni has the usual response bias.

Despite the limitations, Saunders's study is one of the most important in the field of economics education. Though it did not test Stigler's hypothesis directly, it clearly implies that introductory college courses do result in a lasting increase in economics understanding. The difference between his results and the earlier study of Bach and Saunders may be attributed to the fact that one-third of those in the earlier study took their economics in teachers colleges, where the courses may have been inferior [13, Bach and Saunders, 1965, pp. 351–52]. It may also be associated with the different test instrument used, though the results of Saunders and Bach [135, 1970] indicate otherwise. As Bach and Saunders said of their results, "These findings emphasize again the well-known psychological principle that 'learning' unsupported by motivation and reinforcement . . . has a very short half-life" [13, 1965, p. 354].

VI. *Summary and Conclusions*

A. *What Have We Learned?*

The research on teaching college economics is voluminous. A substantial amount has been of good quality, some of it of high quality. So what have we learned?

- Different students learn economics in different ways. The best teaching strategy provides alternative learning methods directed toward the different needs of different students.
- Of the new teaching methods, the most effective seems to be computer-study-

management programs. In this method, the students take frequent tests and are given different assignments depending on the test results.

• Programmed learning is efficient in the sense of bringing students to a given level of competence in less time, but generally students do not like it.

• Students like self-paced instruction, and it increases learning in some circumstances.

• Graduate students generally are just as good teachers as regular faculty even though, other things equal, experience results in better teaching.

• Graduate students who have had teacher training are better instructors than those who have not.

• A one-year course in elementary economics has lasting effects in the form of greater economic competency.

• Computerized games may be fun but they do not seem to be worth the cost.

B. *How Can Research Methodology Be Improved?*[43]

Modeling. Economics education is groping for a formal model, or set of models, of the instructional process. In the past much research in the field consisted of a college instructor regressing final examination scores for students on an ad hoc set of easily obtained student characteristic variables and a variable indicating whether the student participated in a certain pedagogical experiment. Little thought was given to model specification, and functional form was determined arbitrarily.

More recently, McKenzie and Staaf [104, 1974] and Daniel Graham and Kelley [55, 1974] have made progress toward exploiting the rich theoretical models of microeconomics, which explicitly consider behavioral reactions of students and faculty to changes in prices and budget constraints. The application of such models promises to bear fruit, as the empirical literature on student and faculty behavior has already indicated. However, a substantial gap remains between theorizing and empirical research. Progress can be made by synthesizing and integrating the empirical work with the insights that are available from comprehensive theoretical models based on maximizing behavior.

Many of the alleged independent variables in economics education production function studies are endogenous. This has been recognized recently (Allison [2, 1976; 3, 1977]; Soper [153, 1976]; Craig Swan [160, 1978]; Becker and Salemi [18, 1977]), but most research conclusions continue to rest on single equation models. There are studies that use grades to predict course evaluation ratings, course evaluation ratings to predict grades, cognitive performance to predict course evaluation ratings, course evaluation ratings to predict cognitive performance, and grades to predict cognitive performance; and while there do not seem to be any explicit studies, everyone presumes (hopes) that cognitive performance affects grades. The need to develop a simultaneous equations model of this process is obvious.

Most of the evaluations of teaching innovations have been specified so that the treatment group enters the model as a shift parameter. This ignores the possibility that the effect of the alternative technique may be to improve the marginal product of some other factor that is already included in the equation. For example, by using separate equations, Siegfried and Strand [144, 1977] found that self-paced instruction was more effective for females than for males. Utilizing Blinder's method [19, 1973], Chizmar, Hiebert, and McCarney [31, 1977] found that users of computer-assisted instruction learned more economics in spite of CAI (rather than because of it).

[43] An excellent survey of conceptual and empirical issues in estimating educational production functions is Eric Hanushek [62, 1979].

One of the better modeling efforts is the Harvard project [3, Allison, 1977]. It constructs and estimates a three-equation model that adapts to the non-linearities and simultaneity inherent in the educational process. The model includes an equation describing student decisions about the allocation of time and effort; a production function equation that relates student effort, ability, and pedagogy to achievement; and a "profit function," relating student effort and achievement to student enjoyment of the course. Estimates from a constant elasticity of substitution form of the production function reveal "elasticities" of achievement with respect to student ability, pedagogic inputs, and effort of roughly .89, .40, and .25.

Sample Design. Research in economics education would be more credible if evaluation of innovative teaching technologies were conducted by individuals other than those who devise the new methods.

Too many studies in economics education have been one-school, one-time experiments. There are examples of large, broad-based data sets (Attiyeh, Bach, and Lumsden [6, 1969]; Attiyeh and Lumsden [9, 1971]; Saunders [132, 1973]), but they are rare. The single institution studies do not provide sufficient observations and sufficient variation in many variables required to disentangle the complicated relationships inherent in the educational process.

The main deficiency of the evaluations of innovative learning technologies, however, may involve the assignment of students to experimental and control groups. One rationale for the identification and evaluation of alternative pedagogical techniques is that efficient student-learning processes vary across individuals and the opportunity to select among alternative methods of learning permits students to choose the technique best suited to each individual, thus facilitating efficiency in student learning. This suggests that the ultimate objective is not to entirely replace the conventional lecture format with alternative methods, but rather to offer options to (presumably well-informed) students.[44] If this is true, then the gain in learning will accrue to those students who would elect the experimental option and learn more in their courses than they would have learned in the conventional format had the experimental option been unavailable. Therefore, the experimental group should consist of students who voluntarily elect the experimental method and the *control group should consist of students who would voluntarily elect the experimental technology but are actually in the conventional course.*

Neither of the two methods typically used to identify control and experimental students—random assignment or voluntary self-selection—satisfies these criteria. With *randomly assigned* experimental and control students, some individuals are assigned to the experimental class who would have elected the conventional class with unconstrained choice. This implies that they believed *a priori* that the conventional format was more conducive to their learning of economics. Such people would not be found in the experimental course if it were offered as a regular option, and their inclusion in the experimental group confounds the empirical test. A similar argument can be made with respect to students who would elect the alternative technology if confronted with choice, but who are assigned (randomly) to the conventional format in the experiment. The performance of both groups may be worse than it would be if all students could select the personally most

[44] On the other hand, economies of scale relative to demand at some colleges may dictate the choice of only one pedagogical technique for economics instruction, in which case the usual random assignment of students to experimental and control groups is a satisfactory procedure.

suitable technology. Unfortunately, biases may not balance, and the empirical results may consequently provide misleading signals as to how useful the alternative technology would be *vis-à-vis* the conventional format *for those students who would elect the new method under free choice*.[45]

If (informed) students are allowed to *voluntarily choose* whether to enroll in the experimental or control classes, we can infer that those choosing the alternative technology believe *a priori* that it would be helpful to them. So the experimental group includes the correct individuals. However, the control group then consists of students who have revealed that they would not elect the alternative method even if it were offered to them (as it was). Thus the control group does not provide any guidance as to how those who elect the new method would have performed in conventional classes if the alternative had not been offered.

In experiments to evaluate alternative pedagogical techniques it is necessary to identify students who would choose the experimental technology, and then divide them into an experimental and control group.[46]

Measuring Outputs and Inputs. Many of the variables used to measure either inputs or outputs are confined to a small number of values. For example, usually there are only five possible course grades. Course evaluations commonly use a scale of 1 to 5. Often the underlying basis for such variables is an ordinal ranking, in which case (for independent variables) a series of binary variables would be superior to arbitrarily imposing a cardinal relationship on the ranking (*e.g.*, assuming that an A is worth twice a C).

A more serious problem, however, haunts the measurement of output and input. Many variables have upper and lower limits (*e.g.*, ceiling and floor effects of "gap-closing" measures of cognitive achievement), in which case the error distribution is truncated, causing heteroskedasticity and biased parameter estimates if ordinary least squares regression is used [70, Thomas Johnson, 1979]. The practical importance of this limitation has recently been demonstrated by Lee Spector and Michael Mazzeo [157, 1978] who, in a study of self-paced instruction, found that the effect of a PSI introductory course on student grades in a later course was statistically significant and positive using ordinary least squares. When they adopted the more appropriate probit estimation technique, the null hypothesis (no effect of PSI) could no longer be rejected. There are now available several economical techniques for handling limited-value dependent variables [70, Johnson, 1979].

The major difficulty, however, with the measurement of outputs is the failure of most economics education research to recognize that students may elect to use their efficiency gain from a more efficient method of teaching economics to "purchase" additional knowledge in some other discipline (or perhaps "purchase" leisure). Such gains are overlooked when conventional measurement techniques are used. The empirical research on study time comes closest to recognizing this problem.

Multicollinearity. The ad hoc nature of most empirical investigations of the production function for economics education has blurred the distinction between conceptualizing a model and measuring the variables in it. Consequently multiple measures of single concepts often appear

[45] A rigorous demonstration of the sample bias in most economics education research is contained in Siegfried and George Sweeney [145, 1979].

[46] This experimental design runs the risk of bias from a "negative Hawthorne effect." There is danger that students assigned to the control group, knowing and preferring the experimental pedagogy, might perform below normal because they are dissatisfied at being denied the opportunity to learn in the experimental course.

in one equation, causing multicollinearity and substantive errors in interpretation.[47] Controlling for all of the obvious factors that learning theory predicts to affect output is important for reducing bias in the estimated parameters. However, a decision must be made when there are duplicate measures available for one factor.

If and when theory provides little or no guidance as to which of several alternative measures is superior and more than one is included in the model, then the group of measures should be tested jointly with an F-test. It is likely that this approach would explain the apparent paradox of so many standard variables being insignificant in empirical studies of economics education. A joint F-test on a group of variables is also appropriate when a change in one variable necessarily causes a change in another variable, since the impact of changing the one variable alone is then irrelevant. For example, if an achievement equation contains a binary variable for an experimental teaching method and an interaction term that is the product of the experimental binary variable and, say, *SAT* scores, it makes no sense to consider the separate effect of the first variable alone, since changing the teaching method would necessarily change the value of the interaction term also.

Multicollinearity has clearly been recognized in economics education research (Soper [150, 1973; 153, 1976]; Becker [16, 1976]; Highsmith [67, 1976]; Swan [160, 1978]). The continuing debate centers on what to do about it.[48] In addition to eliminating extraneous measures of single factors and jointly testing multiple measures of a single factor for statistical significance, it may be possible to incorporate new information into the model to circumvent the problem. For example, if in a time-series regression of Y on X_1 and X_2, X_1 and X_2 are highly collinear, one might turn to cross-sectional data where, luckily, X_1 is constant across observations. The relationship between X_2 and Y can then be estimated from the cross-sectional data and the time-series analysis used to estimate the coefficient of X_1 while constraining the coefficient of X_2 to the value determined from the cross-sectional analysis. Another new technique for dealing with multicollinearity is "ridge regression." Its advantages, however, come at considerable cost [70, Johnson, 1979].[49]

Our criticisms of research methodology certainly do not apply without exception. Many studies have handled these problems well. For example, Attiyeh, Bach, and Lumsden employed a sample of 4,121 students at 48 different colleges and universities to estimate a production function for economics education [6, 1969]. Allison devised and estimated a simultaneous equations model of the education production function for introductory economics at Harvard using over 2,400 student observations [3, 1977]. Her study included a model of student time allocation based on utility maximization and allowed for non-linearities (*i.e.*, diminishing marginal returns to certain factors) and

[47] Describing production function studies of education in general, Hanushek argues that ". . . multicollinearity does not appear to be the villian it has been made out to be, although it may partially explain some of the apparent inconsistencies in existing research. . . . The usual terminology for regression analysis is misleading here: Right hand variables are often called independent variables, but this does not imply that they cannot be correlated. In fact, multiple regression analysis is used *because* there are correlations among the 'independent' variables" [62, 1979, pp. 351–88].

[48] Some of the earlier studies of economics education production functions occasionally used stepwise regression to choose among a plethora of variables. The level of sophistication of research methods has now taken us beyond such thoroughly discredited techniques for hypothesis testing.

[49] Ridge regression changes some of the (diagonal) values in the regression matrix. This reduces the standard errors of the estimated coefficients, providing narrower confidence intervals. However, it also introduces unknown biases into the point estimates of the parameters.

differential effects on different types of students. Becker and Salemi evaluated an audiovisual tutorial package using data from six colleges [18, 1977]. They explicitly considered a nonlinear theoretical model of learning; modeled the ceiling effect of the gap-closing cognitive achievement measure; corrected for simultaneous equations bias; controlled for variable inputs (*i.e.*, student study time); specified interaction terms, which permitted the identification of beneficiaries of the tutorial package; and analyzed the marginal costs of the program and attempted to weigh them against the marginal benefits.

The field of economics education is a teenager, experiencing the growing pains of adolescence. The rapid improvement in research methodology being applied to problems of teaching in economics should not be surprising in view of this youth. Indeed, what is remarkable is the progress that has been made in such a relatively short span.

C. *Where Do We Go From Here?*

There are two major thrusts that should be undertaken to complement the improvements in research methods discussed above. First, many of the good one-school studies need to be replicated elsewhere. The evidence from Attiyeh, Bach, and Lumsden [6, 1969], that different types of schools matter, and from Chizmar *et al.* [31, 1977], that the effect of teaching methods on economics learning may depend on the level of human capital available, suggests the importance of replication. In addition, there is danger that the innovator invested substantially more time in teaching an experimental course, in which case advantages attributed to a new method actually may be returns to faculty effort. This danger is reduced if the innovation is implemented and evaluated by someone other than the initiator. Finally, replication will add to the sample size and improve confidence in the objectivity of assessments of teaching methods. The most effective means of gaining large sample sizes and sufficient variation in explanatory factors to permit sophisticated modeling while minimizing the danger of variation in the implementation of teaching methods is large-scale research projects similar to those of Attiyeh, Bach and Lumsden [6, 1969], Saunders [129, 1971; 132, 1973] or Attiyeh and Lumsden [9, 1971].

Second, most of the research in economics education has been concerned with the college principles of economics course, and rightly so. However, there are other important vehicles of economics education, and perhaps the early marginal products from an assessment of them exceed the diminished marginal product of yet another twist on programmed instruction, televised lectures, or computer games. For example, most of the economics education in the United States comes through the popular press. Very little assessment has been made of advertising campaigns by corporations, trade association education (propaganda?) efforts, or press coverage of economic events. What is the impact of the PBS series "Economically Speaking" or "The Age of Uncertainty"? What is the quality of economics reasoning among the business and economics staffs of local newspapers?

Besides the principles course there is the economics major. While there have been a few studies of upper division courses (economic statistics, intermediate theory, money and banking), for the most part these courses have been neglected by research. This may be due to the absence of clearly defined goals for the economics major, of which these courses are usually a part. Since undergraduate majors in economics pursue diverse careers—law school, business school, graduate school in economics (and other disciplines), business employment, government employment, entrepreneurship—it

is not obvious how the undergraduate major curriculum should be structured. Indeed, there is substantial disagreement on whether it should be career oriented at all.

Data on undergraduate instruction in economics at U.S. colleges and universities could be useful in planning and administering Ph.D. programs, since undergraduate majors are an important component in the derived demand for Ph.D.'s [138, Scott, 1979]. Before research proceeds to courses beyond elementary economics, we need to know how many people annually enroll in which courses and for what purposes.[50] The debate on course objectives, while unsettled for the principles course, may be highly controversial for the set of courses that constitute a major.

There are many other important areas for research on teaching college economics. For example, further refinement of the input coefficients in the production function will be useful as colleges and universities begin belt-tightening in response to the diminishing college age population in the next decade. Research findings may help college administrators to decide between reducing budgets by increasing class size or by hiring younger, and less experienced, instructors.

In spite of rapid growth in alternative pedagogies, the blackboard and textbook remain the staple inputs into the process. But we know embarrassingly little about how differences among textbooks affect the learning and attitudes of students. We have done little detailed analysis of the generalizable attributes of classroom teaching behavior. The JCEE's Teacher Training Program contains many helpful hints to improve lectures, but to date there has been little, if any, systematic research to verify their effectiveness.

It appears that the standard production function studies of college teaching have been unable to explain much of the variation in measured outputs. This may be because the inputs or outputs have been measured inadequately, or because the model was specified poorly. An alternative explanation is that the important determinants of variations in student learning are at the micro level—individual students have such different learning processes that generalization is almost futile. From the more general research on education, Davis Armor *et al.* [5, 1976] explain the apparent ineffectiveness of alternative pedagogies by the substantial variation in implementation of them at the classroom level. Therefore, we need to learn more about the process by which instructors adopt teaching methods and tailor them to individual students.

D. *Conclusion*

A cumulative literature on economics education has now developed. As in other subfields of economics, those who would publish must search the literature for previous findings and build on them. They must also bring to bear the tools of economic theory and econometrics. The quality of the research done so far varies widely, but dramatic improvement has occurred in recent years; much more of the current research is first rate than was the case 15 years ago.

An economist can now make a decent living by specializing in economics education. True (perhaps unfortunately for undergraduate students), it is not a prestige subject in high demand. A young economist wanting to win the Clark medal needs to earn his reputation elsewhere. But the field is rapidly becoming respectable, and the research findings can be useful to college economics teaching.

[50] A count of professors teaching various courses by a company that sells mailing lists to publishers listed 6,130 for principles of economics, 1,671 for intermediate micro theory, 1,408 for money and banking, 1,404 for intermediate macro theory, and 859 for labor economics as the five most popular course areas in 1978–79 [33, College Marketing Group, n.d.].

REFERENCES

1. ALLISON, ELISABETH. "Self-Paced Instruction: A Review," *J. Econ. Ed.*, Fall 1975, *7*(1), pp. 5–12.
2. ——. "Three Years of Self-Paced Teaching in Introductory Economics at Harvard," *Amer. Econ. Rev.*, May 1976, *66*(2), pp. 222–28.
3. ——. "Educational Production Function for an Introductory Economics Course." Discussion Paper Number 545, April. Harvard University Institute of Economic Research, 1977.
4. AMERICAN ECONOMIC ASSOCIATION. "Classification of Members by Fields of Specialization," *Amer. Econ. Rev.*, December 1978, *68*(6), pp. 426–31.
5. ARMOR, DAVIS J., ET AL. *Analysis of the school preferred reading program in selected Los Angeles minority schools.* R-20007-LAUSD. Santa Monica: Rand, 1976.
6. ATTIYEH, RICHARD; BACH, GEORGE L. AND LUMSDEN, KEITH G. "The Efficiency of Programmed Learning in Teaching Economics: The Results of a Nationwide Experiment," *Amer. Econ. Rev.*, May 1969, *59*(2), pp. 217–23.
7. ——; BACH, GEORGE L. AND LUMSDEN, KEITH G. "Factors Affecting Student Learning of Elementary Economics," in *Recent research in economic education.* Edited by Keith G. Lumsden. Englewood Cliffs, N.J.: Prentice-Hall, 1970, pp. 67–79.
8. —— AND LUMSDEN, KEITH G. "The Effectiveness of 'Programmed Learning' in Economics," *Amer. Econ. Rev.*, May 1965, *55*(2), pp. 549–55.
9. —— AND LUMSDEN, KEITH G. "University Students' Initial Understanding of Economics: The Contribution of the 'A' Level Economics Course and of Other Factors," *Economica*, Feb. 1971, *38*(149), pp. 81–97.
10. —— AND LUMSDEN, KEITH G. "Some Modern Myths in Teaching Economics: The U.K. Experience," *Amer. Econ. Rev.*, May 1972, *62*(2), pp. 429–33.
11. BACH, GEORGE L. "Student Learning in Basic Economics: An Evaluated Experimental Course," in *New developments in the teaching of economics.* Edited by KEITH G. LUMSDEN. Englewood Cliffs, N.J.: Prentice Hall, 1967, pp. 74–91.
12. ——. "What Should a Principles Course in Economics Be?" in *Goals and objectives of the introductory college-level course in economics.* Edited by ALLEN LARSEN AND ANDREW T. NAPPI. Ninth District Economic Information Series. Minneapolis: The Federal Reserve Bank of Minneapolis, 1976, pp. 15–18.
13. —— AND SAUNDERS, PHILLIP. "Economic Education: Aspirations and Achievements," *Amer. Econ. Rev.*, June 1965, *55*(3), pp. 329–56.
14. —— AND SAUNDERS, PHILLIP. "Lasting Effects of Economics Courses at Different Types of Institutions," *Amer. Econ. Rev.*, June 1966, *56*(3), pp. 505–11.
15. BATTALIO, RAYMOND C.; HULETT, JOE R. AND KAGEL, JOHN H. "Comment on J. J. Siegfried's 'The Publishing of Economic Papers and Its Impact on Graduate Faculty Ratings, 1960–1969,'" *J. Econ. Lit.*, March 1973, *11*(1), pp. 68–70.
16. BECKER, WILLIAM E., JR. "Programmed Instruction in Large-Lecture Courses: A Technical Comment," *J. Econ. Ed.*, Fall 1976, *8*(1), pp. 38–40.
17. ——. "Professorial Behavior Given a Stochastic Reward Struc-

ture," *Amer. Econ. Rev.*, Dec. 1979, *69*(5), forthcoming.
18. ——— AND SALEMI, MICHAEL K. "The Learning and Cost Effectiveness of AVT Supplemented Instruction: Specification of Learning Models," *J. Econ. Ed.*, Spring 1977, *8*(2), pp. 77–92.
19. BLINDER, ALAN S. "Wage Discrimination: Reduced Form and Structural Estimates," *J. Human Res.*, Fall 1973, *8*(4), pp. 436–55.
20. BONELLO, FRANK J.; DAVISSON, WILLIAM I. AND SWARTZ, THOMAS R. "Educational Innovations May Be Statistically Significant If Properly Measured," paper presented at the Allied Social Science Associations Annual Meeting. Chicago, August 1978.
21. BOOMS, BERNARD H. AND KALTREIDER, D. LYNNE. "Computer-Aided Instruction for Large Elementary Courses," *Amer. Econ. Rev.*, May 1974, *64*(2), pp. 408–13.
22. BOULDING, KENNETH AND BOULDING, ELISE. "Introducing Freshmen to the Social System," *Amer. Econ. Rev.*, May 1974, *64*(2), pp. 414–19.
23. BOWLES, SAMUEL. "Towards an Educational Production Function," in *Education, income, and human capital.* Edited by W. LEE HANSEN. New York: National Bureau of Economic Research; distributed by Columbia University Press, 1970, pp. 11–61.
24. BRONFENBRENNER, MARTIN. "Radical Economics in America: A 1970 Survey," *J. Econ. Lit.*, Sept. 1970, *8*(3), pp. 747–66.
25. ———. "The Economics Major—What Is He?" *Atlantic Econ. J.*, Dec. 1978, *6*(4), pp. 22–25.
26. BUCHELE, ROBERT AND LAZONICK, WILLIAM. "Economics as a Social Science: Introducing the Capitalist Economy," *Rev. Rad. Pol. Econ.*, Winter 1975, *6*(4), pp. 20–40.
27. BUCKLES, STEPHEN G. AND MCMAHON, MARSHALL E. "Further Evidence on the Value of Lectures in Elementary Economics," *J. Econ. Ed.*, Spring 1971, *2*(2), pp. 138–41.
28. ——— AND WELSH, ARTHUR L. "The Use of Validated Tests in Teaching and Research," in WELSH, ARTHUR L., ed. [173, 1972], pp. 24–32.
29. CAPOZZA, DENNIS R. "Student Evaluations, Grades and Learning in Economics (912)," *Western Econ. J.*, *11*(1), March 1973, p. 127.
30. CASPER, CHERYL A. "An Empirical Study of the Effect of Behavioral Objectives in Principles of Economics," *J. Econ. Ed.*, Spring 1977, *8*(2), pp. 127–29.
31. CHIZMAR, JOHN F.; HIEBERT, L. DEAN AND MCCARNEY, BERNARD J. "Assessing the Impact of an Instructional Innovation on Achievement Differentials: The Case of Computer-Assisted Instruction," *J. Econ. Ed.*, Fall 1977, *9*(1), pp. 42–46.
32. COHN, ELCHANAN. *The economics of education.* Revised Edition. Cambridge, Massachusetts: Ballinger Publishing Company, [1972] 1979.
33. COLLEGE MARKETING GROUP, INC. *CMG Mailing Lists 1978–1979.* Winchester, Mass., no date.
34. COMMITTEE FOR ECONOMIC DEVELOPMENT, NATIONAL TASK FORCE ON ECONOMIC EDUCATION. *Economic education in the schools: A report.* New York, CED, 1961.
35. COSTIN, FRANK; GREENOUGH, WILLIAM T. AND MENGES, ROBERT J. "Student Ratings of College Teaching: Reliability, Validity, and Usefulness," *J. Econ. Ed.*, Fall 1973, *5*(1), pp. 51–53.
36. COX, STEVEN R. "Computer-Assisted Instruction and Student Performance in Macroeconomic Princi-

ples," *J. Econ. Ed.*, Fall 1974, *6*(1), pp. 29–37.

37. CRAIG, ELEANOR D. AND O'NEILL, JAMES B. "Economic Education: Where Are We Going?" paper presented to the Eastern Economic Association, Washington, D.C., April 1978.
38. ———; O'NEILL, JAMES B. AND ELFNER, DOUGLAS W. "Large Class Retention: The Effects of Method in Macroeconomics." Unpublished manuscript, University of Delaware, September 1978.
39. DARNTON, DONALD C. "Programmed Learning-Policy Analysis: An Experiment in Teaching Principles of Economics," *J. Econ. Ed.*, Fall 1971, *3*(1), pp. 32–35.
40. DAVISSON, WILLIAM I. AND BONELLO, FRANK J. *Computer-assisted instruction in economics education: A case study.* Notre Dame, Indiana: University of Notre Dame Press, 1976.
41. EDWARDS, RICHARD C. AND MACEWAN, ARTHUR. "A Radical Approach to Economics: Basis for a New Curriculum," *Amer. Econ. Rev.*, May 1970, *60*(2), pp. 352–63.
42. ELLIOTT, RALPH D.; IRELAND, M. EDWIN AND CANNON, TERESA S. "An Analysis of the Marginal Products of the One- and Two-Semester Introductory Economics Courses," *J. Econ. Ed.*, Fall 1978, *10*(1), pp. 18–25.
43. EMERY, E. DAVID AND ENGER, THOMAS P. "Computer Gaming and Learning in an Introductory Economics Course," *J. Econ. Ed.*, Spring 1972, *3*(2), pp. 75–85.
44. ——— AND SCHOENE, JEAN. "Computer Gaming and Learning: A Note on Retention." Unpublished manuscript, St. Olaf College, *circa* 1974.
45. EVERETT, MICHAEL D. "Student Evaluations of Teaching and the Cognitive Level of Economics Courses," *J. Econ. Ed.*, Spring 1977, *8*(2), pp. 100–103.
46. FELS, RENDIGS. "On Teaching Elementary Economics," *Amer. Econ. Rev.*, Dec. 1955, *45*(5), pp. 919–32.
47. ———. "A New 'Test of Understanding in College Economics,'" *Amer. Econ. Rev.*, May 1967, *57*(2), pp. 660–66.
48. ———. "Multiple Choice Questions in Elementary Economics," in *Recent research in economics education.* Edited by KEITH G. LUMSDEN. Englewood Cliffs, N.J.: Prentice-Hall, 1970, pp. 27–43.
49. ———. *The Vanderbilt–JCEE experimental course in elementary economics. (J. Econ. Ed.*, Winter 1974, Special Issue Number 2.) New York: Joint Council on Economic Education, 1974.
50. ———. "Who's Been Killing the Free Enterprise System?" Vanderbilt *Alumnus*, Spring 1978, pp. 8–9.
51. ——— AND STARLEAF, DENNIS R. "Controlled Experiments in Teaching Techniques," *Southern Econ. J.*, July 1963, *30*(1), pp. 68–73.
52. FREEMAN, RICHARD B. *The market for college-trained manpower: A study in the economics of career choice.* Cambridge, Mass.: Harvard University Press, 1971.
53. FREIDEN, ALAN AND STAAF, ROBERT J. "Scholastic Choice: An Economic Model of Student Behavior," *J. Human Res.*, Summer 1973, *8*(3), pp. 396–404.
54. FUSFELD, DANIEL R. AND JUMP, GREGORY. "An Experiment with Programmed Instruction in Economics," *Southern Econ. J.*, Jan. 1966, *32*(3), pp. 353–56.
55. GRAHAM, DANIEL A. AND KELLEY, ALLEN C. "Towards a Behavioral Model of the Educational Process."

Unpublished manuscript, Duke University, October 1974.

56. GURLEY, JOHN G. "Some Comments on the Principles Course," *Amer. Econ. Rev.*, May 1975, *65*(2), pp. 431–33.
57. HANSEN, W. LEE. "New Approaches to Teaching the Principles Course," *Amer. Econ. Rev.*, May 1975, *65*(2), pp. 434–37.
58. ———. "The State of Economic Literacy," in WENTWORTH, DONALD R.; HANSEN, W. LEE AND HAWKE, SHARRYL H., eds. [175, 1977], pp. 61–79.
59. ———, et al. *Master curriculum guide for the nation's schools.* Part I: *A framework for teaching economics: Basic concepts.* New York: Joint Council on Economic Education, 1977.
60. ——— AND KELLEY, ALLEN C. "Political Economy of Course Evaluations," *J. Econ. Ed.*, Fall 1973, *5*(1), pp. 10–21.
61. ———; KELLEY, ALLEN C. AND WEISBROD, BURTON A. "Economic Efficiency and the Distribution of Benefits From College Instruction," *Amer. Econ. Rev.*, May 1970, *60*(2), pp. 364–69.
62. HANUSHEK. ERIC A. "Conceptual and Empirical Issues in the Estimation of Educational Production Functions," *J. Human Res.*, Summer 1979, *14*(3), pp. 351–88.
63. HARBURY, C. D. AND SZRETER, R. "The Influence upon University Performance of the Study of Economics at School," *J. Royal Statist. Soc.*, Series A (General), 1968, *131*, Part 3, pp. 384–409.
64. HARTMAN, DAVID G. "What Do Economics Majors Learn?" *Amer. Econ. Rev.*, May 1978, *68*(2), pp. 17–22.
65. ———. "What Do Economics Majors Learn?" *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 87–91.
66. HAVRILESKY, THOMAS. "A Test of the Effectiveness of Teaching Money and Banking by Programmed Instruction." *J. Econ. Ed.*, Spring 1971, *2*(2), pp. 151–54.
67. HIGHSMITH, ROBERT. "Second Generation Research in Economic Education: A Comment," *J. Econ. Ed.*, Fall 1976, *8*(1), pp. 48–51.
68. HUANG, CLIFF J. "Optimal Allocation of Faculty Time under Uncertainty in Production." Unpublished manuscript, Vanderbilt University, February 1, 1979.
69. JENKINS, EVANS. "Should Cincinnati Bell Charge Extra? A Case-Study Approach to Economics," in "Report on Teaching 3," *Change*, Jan. 1977, *9*(1), pp. 8–10.
70. JOHNSON, THOMAS. "Research on Economic Education: How Well Is It Answering the Questions Asked?" *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 22–27.
71. JOINT COUNCIL ON ECONOMIC EDUCATION. *Test of Economic Understanding.* Chicago: Science Research Associates, 1963.
72. ———. *Test of Understanding in College Economics.* New York: Psychological Corp., 1968.
73. JOSEPH, MYRON L. "Game and Simulation Experiments," *J. Econ. Ed.*, Spring 1970, *1*(2), pp. 91–96.
74. KARSTENSSON, LEWIS AND VEDDER, RICHARD K. "A Note on Attitude as a Factor in Learning Economics," *J. Econ. Ed.*, Spring 1974, *5*(2), pp. 109–11.
75. KATZ, DAVID A. "Faculty Salaries, Promotion, and Productivity at a Large University," *Amer. Econ. Rev.*, June 1973, *63*(3), pp. 469–77.
76. KAU, JAMES B. AND RUBIN, PAUL H. "Measurement Techniques, Grades and Ratings of Instructors," *J. Econ. Ed.*, Fall 1976, *8*(1), pp. 59–62.
77. KELLER, FRED S. "Goodbye Teacher

. . . ," in *PSI: Personalized system of instruction: 41 germinal papers.* Edited by J. GILMOUR SHERMAN. Menlo Park, Calif.: W. A. Benjamin, 1974, pp. 3–12. (See also pp. 209–15 for two related articles also by Keller.)

78. KELLEY, ALLEN C. "An Experiment with TIPS: A Computer-Aided Instructional System for Undergraduate Education," *Amer. Econ. Rev.*, May 1968, *58*(2), pp. 446–57.
79. ______. "The Economics of Teaching: The Role of TIPS," in *Recent research in economics education.* Edited by KEITH G. LUMSDEN. Englewood Cliffs, N.J.: Prentice-Hall, 1970, pp. 44–66.
80. ______. "TIPS and Technical Change in Classroom Instruction," *Amer. Econ. Rev.*, May 1972, *62*(2), pp. 422–28.
81. ______. "Uses and Abuses of Course Evaluations as Measures of Educational Output," *J. Econ. Ed.*, Fall 1972, *4*(1), pp. 13–18.
82. ______. "Individualizing Education through the Use of Technology in Higher Education," *J. Econ. Ed.*, Spring 1973, *4*(2), pp. 77–89.
83. ______. "The Student as a Utility Maximizer," *J. Econ. Ed.*, Spring 1975, *6*(2), pp. 82–92.
84. KIPPS, PAUL H. "The Use of Course Evaluation Scores to Influence Teaching and Research Activities," *J. Econ. Ed.*, Spring 1975, *6*(2), pp. 93–98.
85. KOHEN, ANDREW I. AND KIPPS, PAUL H. "Factors Determining Students' Retention of Economic Knowledge after Completing the Principles-of-Microeconomics Course," *J. Econ. Ed.*, Spring 1979, *10*(2).
86. LABINSKI, P. F. "The Effectiveness of Economics Instruction in Two-Year Colleges Revisited," *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 102–06.
87. LAMPHEAR, CHARLES AND MCCONNELL, CAMPBELL R. "A Note on the Use of Graduate Teaching Assistants in the Principles Course," *J. Econ. Ed.*, Spring 1970, *1*(2), pp. 139–42.
88. LEFTWICH, RICHARD H. "Objectives of the College-Level Principles of Economics Course," in *Goals and objectives of the introductory college-level course in economics.* Edited by ALLEN LARSEN AND ANDREW T. NAPPI. Ninth District Economic Information Series. Minneapolis: The Federal Reserve Bank of Minneapolis, 1976, pp. 26–29.
89. ______ AND SHARP, ANSEL M. *Syllabus for an 'issues approach' to teaching economics principles. (J. Econ. Ed.*, Winter 1974, Special Issue Number 1.) New York: Joint Council on Economic Education, 1974.
90. LEVIN, HARRY M. *Differences in outcomes between large and small classes in Western Civilization and Economics.* Ph.D. dissertation, Rutgers University, UM Number 67-14, 428, 1967.
91. LEWIS, DARRELL R. AND DAHL, TOR. "The Test of Understanding in College Economics and Its Construct Validity," *J. Econ. Ed.*, Spring 1971, *2*(2), pp. 155–66.
92. ______ AND DAHL, TOR. "Critical Thinking Skills in the Principles Course: An Experiment," in *Research papers in economic education.* WELSH, ARTHUR L., ed. [173, 1972], pp. 50–68.
93. ______ AND DAHL, TOR. "Factors Influencing Performance in the Principles Course Revisited," in *Research papers in economic education.* WELSH, ARTHUR L., ed. [173, 1972], pp. 94–117.
94. ______ AND ORVIS, CHARLES C. "A Training System for Graduate Student Instructors of Introductory Eco-

nomics at the University of Minnesota," *J. Econ. Ed.*, Fall 1973, *5*(1), pp. 38–46.

95. LUMSDEN, KEITH G. "The Effectiveness of Programmed Learning in Elementary Economics," *Amer. Econ. Rev.*, May 1967, *57*(2), pp. 652–59.

96. ———. "The Information Content of Student Evaluation of Faculty and Courses," in *Efficiency in universities: The La Paz papers.* Edited by KEITH G. LUMSDEN. Amsterdam and New York: Elsevier Scientific, 1974, pp. 175–204.

97. ——— ATTIYEH, RICHARD E. AND SCOTT, ALEX. *Economics education in the U.K.* Heinemann Educational Books, forthcoming.

98. MANN, WILLIAM R. AND FUSFELD, DANIEL R. "Attitude Sophistication and Effective Teaching in Economics," *J. Econ. Ed.*, Spring 1970, *1*(2), pp. 111–29.

99. MCCONNELL, CAMPBELL R. "An Experiment with Television in the Elementary Course," *Amer. Econ. Rev.*, May 1968, *58*(2), pp. 469–82.

100. ——— AND FELTON, JOHN R. "A Controlled Evaluation of 'The American Economy,'" *Amer. Econ. Rev.*, June 1964, *54*(3), pp. 403–07.

101. ——— AND LAMPHEAR, CHARLES. "The Effectiveness of Teaching Methods: Teaching Principles of Economics without Lectures," *J. Econ. Ed.*, Fall 1969, *1*(1), pp. 20–32.

102. MCKENZIE, RICHARD B. "The Economic Effects of Grade Inflation on Instructor Evaluations: A Theoretical Approach," *J. Econ. Ed.*, Spring 1975, *6*(2), pp. 99–106.

103. ———. "Where Is the Economics in Economic Education?" *J. Econ. Ed.* Fall 1977, *9*(1), pp. 5–13.

104. ——— AND STAAF, ROBERT J. *An economic theory of learning: Student sovereignty and academic freedom.* Blacksburg, Va.: University Publications, 1974.

105. MEEROPOL, MICHAEL. "A Radica Teaching a Straight Principles o Economics Course," *Rev. Rad. Pol Econ.*, Winter 1975, *6*(4), pp. 2–9

106. MIRUS, ROLF. "Some Implications o Student Evaluation of Teachers," *J Econ. Ed.*, Fall 1973, *5*(1), pp. 35–46.

107. MORAWETZ, DAVID. *Helping students learn to identify and set up economic problems: An evaluated experiment.* Jerusalem: Hebrew University Economics Department Research Report Number 90, 1976.

108. ———. "The Use of Graduate Student Instructors in the Introductory Economics Course at the Hebrew University, 1967–1975" *J. Econ. Ed.*, Fall 1977, *9*(1), pp. 47–50.

109. ———. "Helping Students to Learn to Identify and Set Up Economic Problems: An Evaluated Experiment," *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 92–95.

110. MORGAN, W. DOUGLAS AND VASCHÉ, JON DAVID. "An Educational Production Function Approach to Teaching Effectiveness and Evaluation," *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 123–26.

111. MOYER, M. EUGENE AND PADEN, DONALD W. "On the Efficiency of the High School Economics Course," *Amer. Econ. Rev.*, Sept. 1968, *58*(4), pp. 870–76.

112. MURNANE, RICHARD J. *The impact of school resources on the learning of inner city children.* Cambridge, Mass.: Ballinger, 1975.

113. NEEDHAM, DOUGLAS. "Student Effort, Learning, and Course Evaluation," *J. Econ. Ed.*, Fall 1978, *10*(1), pp. 35–43.

114. NELSON, DENNIS L. *The effect of specifically stated instructional objectives on the achievement of collegi-*

ate undergraduate economics students. Ph.D. dissertation, University of Minnesota, 71-18, 789, 1970.

115. NICHOLS, ALAN AND SOPER, JOHN C. "Economic Man in the Classroom," *J. Polit. Econ.*, Sept.–Oct. 1972, *80*(5), pp. 1069–73.
116. OATES, WALLACE E. AND QUANDT, RICHARD E. "The Effectiveness of Graduate Students as Teachers of Principles of Economics," *J. Econ. Ed.*, Spring 1970, *1*(2), pp. 130–38.
117. O'CONNOR, WILLIAM C. "Economic Education: Comparative Experiences of Great Britain and the United States," *Economics: The Journal of the Economic Association*, Winter 1973–74, *10*(3), pp. 171–74.
118. PADEN, DONALD W.; DALGAARD, BRUCE R. AND BARR, MICHAEL D. "A Decade of Computer-Assisted Instruction," *J. Econ. Ed.*, Fall 1977, *9*(1), pp. 14–20.
119. ——— AND MOYER, M. EUGENE. "The Effectiveness of Teaching Methods: The Relative Effectiveness of Three Methods of Teaching Principles of Economics," *J. Econ. Ed.*, Fall 1969, *1*(1), pp. 33–45.
120. PALMER, JOHN; CARLINER, GEOFFREY AND ROMER, THOMAS. "Does High School Economics Help?" *J. Econ. Ed.*, Spring 1979, *10*(2).
121. PHILLIPS, JAMES A. "Instructional Objectives and Economics Understanding," *J. Econ. Ed.*, Spring 1972, *3*(2), pp. 112–17.
122. RAMSETT, DAVID E.; JOHNSON, JERRY D. AND ADAMS, CURTIS. "Some Evidence on the Value of Instructors in Teaching Economic Principles," *J. Econ. Ed.*, Fall 1973, *5*(1), pp. 57–62.
123. REMMERS, H. H. AND WEISBRODT, J. A. *Manual of instructions for the Purdue rating scale for instruction.* West Lafayette, Ind.: University Bookstore, 1965.
124. RODIN, MIRIAM AND RODIN, BURTON. "Student Evaluations of Teachers," *J. Econ. Ed.*, Fall 1973, *5*(1), pp. 5–21.
125. ROKEACH, MILTON. *The nature of human values.* New York: Macmillan, Free Press, 1973.
126. ROTHMAN, MITCHELL P. AND SCOTT, JAMES H., JR. "Political Opinions and the TUCE," *J. Econ. Ed.*, Spring 1973, *4*(2), pp. 116–24.
127. SAUNDERS, PHILLIP. "The Effectiveness of 'The American Economy' in Training Secondary School Teachers," *Amer. Econ. Rev.*, June 1964, *54*(3), pp. 396–403.
128. ———. "Does High School Economics Have a Lasting Impact?" *J. Econ. Ed.*, Fall 1970, *2*(1), pp. 39–55.
129. ———. "The Lasting Effects of Elementary Economics Courses: Some Preliminary Results," *Amer. Econ. Rev.*, May 1971, *61*(2), pp. 242–48.
130. ———. "More on the Use of Graduate Student Instructors in the Introductory Economics Course," *J. Econ. Ed.*, Fall 1971 *3*(1), pp. 36–40.
131. ———. "Student Learning and Instructor Ratings: The Carnegie-Mellon Experience in Introductory Economics," in WELSH, ARTHUR L., ed. [173, 1972], pp. 2–11.
132. ———. "The Lasting Effectiveness of Introductory Economics Courses," final report, NSF Grant GY-7208, June 1973.
133. ———. *Experimental course development in introductory economics at Indiana University. (J. Econ. Ed., Fall 1975, Special Issue Number 4.)* New York: Joint Council on Economic Education, 1975.
134. ———. "Instructional Objectives," in SAUNDERS, PHILLIP; WELSH, ARTHUR L. AND HANSEN, W. LEE, eds. [137, 1978], pp. 51–87.
135. ——— AND BACH, GEORGE L. "The Lasting Effects of an Introductory

Economics Course: An Exploratory Study," *J. Econ. Ed.*, Spring 1970, *1*(2), pp. 143–49.

136. ——— AND WELSH, ARTHUR L. "The Hybrid TUCE: Origin, Data, and Limitations," *J. Econ. Ed.*, Fall 1975, *7*(1), pp. 13–19.

137. ———; WELSH, ARTHUR L. AND HANSEN, W. LEE. *Resource manual for teacher training programs in economics.* New York: Joint Council on Economic Education, 1978.

138. SCOTT, CHARLES E. *The academic market for Ph.D. economists: An econometric analysis.* Ph.D. dissertation, Vanderbilt University, 1979.

139. SCOTT, JAMES H., JR. AND ROTHMAN, MITCHELL P. "The Effect of an Introductory Economics Course on Student Political Attitudes," *J. Econ. Ed.*, Spring 1975, *6*(2), pp. 107–12.

140. SIEGFRIED, JOHN J. "A Reply to the Comment of Professors Battalio, Hulett, and Kagel on 'The Publishing of Economic Papers and Its Impact on Graduate Faculty Ratings, 1960–1969,'" *J. Econ. Lit.*, March 1973, *11*(1), pp. 71–73.

141. ———. "Is Teaching the Best Way to Learn? An Evaluation of the Benefits and Costs to Undergraduate Student Proctors in Elementary Economics," *Southern Econ. J.*, Jan. 1977, *43*(3), pp. 1394–1400.

142. ———. "Male-Female Differences in Economics Education: A Survey," *J. Econ. Ed.*, Spring 1979, *10*(2).

143. ——— AND STRAND, STEPHEN H. "An Evaluation of the Vanderbilt-JCEE Experimental PSI Course in Elementary Economics," *J. Econ. Ed.*, Fall 1976, *8*(1), pp. 9–26.

144. ——— AND STRAND, STEPHEN H. "Sex and the Economics Student," *Rev. Econ. Statist.*, May 1977, *59*(2), pp. 247–49.

145. ——— AND SWEENEY, GEORGE H. "Bias in Economics Education Research from Random and Voluntary Selection into Experimental and Control Groups." Unpublished manuscript, Vanderbilt University, 1979.

146. ——— AND WHITE, KENNETH J. "Financial Rewards to Research and Teaching: A Case Study of Academic Economists," *Amer. Econ. Rev.*, May 1973, *63*(2), pp. 309–15.

147. ——— AND WHITE, KENNETH J. "Teaching Ability as a Determinant of Faculty Salaries," *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 130–32.

148. SKINNER, B. F. AND HOLLAND, JAMES G. *The analysis of behavior: A program for self-instruction.* New York: McGraw-Hill, 1961.

149. SLOANE, PETER E. "The Relationship of Performance to Instruction and Student Attitudes," in WELSH, ARTHUR L., ed. [173, 1972], pp. 70–83.

150. SOPER, JOHN C. "Programmed Instruction in Large-Lecture Courses," *J. Econ. Ed.*, Spring 1973, *4*(2), pp. 125–29.

151. ———. "Soft Research on a Hard Subject: Student Evaluations Reconsidered," *J. Econ. Ed.*, Fall 1973, *5*(1), pp. 22–26.

152. ———. "Computer-Assisted Instruction in Economics: A Survey," *J. Econ. Ed.*, Fall 1974, *6*(1), pp. 5–28.

153. ———. "Second Generation Research in Economic Education: Problems of Specification and Interdependence," *J. Econ. Ed.*, Fall 1976, *8*(1), pp. 40–48.

154. ———. *Test of Economic Literacy: Discussion guide and rationale.* New York: Joint Council on Economic Education, 1979.

155. ——— AND THORNTON, RICHARD M. "Self-Paced Economics Instruction: A Large-Scale Disaggregated Evaluation," *J. Econ. Ed.*, Spring 1976, *7*(2), pp. 81–91.

156. SOSIN, KIM AND MCCONNELL, CAMPBELL R. "Student Perceptions of Income Distribution." Unpublished manuscript, University of Nebraska, *circa* 1978.
157. SPECTOR, LEE AND MAZZEO, MICHAEL. "Probit Analysis and Economic Education." Unpublished manuscript, State University College at Buffalo, 1978.
158. STIGLER, GEORGE J. "The Politics of Political Economists," *Quart. J. Econ.*, Nov. 1959, *73*(4), pp. 522–32.
159. ——. "Elementary Economic Education," *Amer. Econ. Rev.*, May 1963, *53*(2), pp. 653–59.
160. SWAN, CRAIG. "Comments on the Problems of Specification and Interdependence in a Set of Learning Equations," *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 81–86.
161. SWARTZ, T. R.; BONELLO, F. J. AND DAVISSON, W. I. "The Use of TUCE May Lead to Misunderstanding Cognitive Achievement." Unpublished paper presented at the June 1977 meetings of the Western Economic Association and the November 1977 meetings of the National Association of Affiliated Economic Education Directors.
162. TAYLOR, HORACE, ed. "The Teaching of Undergraduate Economics: Report of the Committee on the Undergraduate Teaching of Economics and Training of Economists," *Amer. Econ. Rev.*, Dec. 1950, Supplement, Part 2, *40*(5).
163. THOMPSON, FRED A. "The Interaction of Cognition and Affect: The Issue of Free Trade," *J. Econ. Ed.*, Spring 1973, *4*(2), pp. 111–15.
164. TIEMANN, PHILIP W.; PADEN, DONALD W. AND MCINTYRE, CHARLES J. *An application of the principles of programmed instruction to a televised course in college economics.* Washington, D.C.: U.S. Department of Health, Education and Welfare, 1966.
165. TUCKMAN, BARBARA AND TUCKMAN, HOWARD. *Toward a more effective economic principles class: The Florida State University experience. J. Econ. Ed.*, Spring 1975, Special Issue Number 3. New York: Joint Council on Economic Education, 1975.
166. TUCKMAN, HOWARD P. "Teacher Effectiveness and Student Performance," *J. Econ. Ed.*, Fall 1975, *7*(1), pp. 34–39.
167. ——. *Publication, teaching, and the academic reward structure.* Lexington, Mass.: Heath, Lexington Books, 1976.
168. WEHRS, WILLIAM. "Incentive Structure and the TUCE," *J. Econ. Ed.*, Spring 1978, *9*(2), pp. 107–10.
169. WEIDENAAR, DENNIS J. "The Effect of Programmed Instructional Materials and Other Factors on Performance in the Introductory Economics Course," in WELSH, ARTHUR L., ed. [173, 1972], pp. 118–32.
170. —— AND DODSON, JOE A., JR. "The Effectiveness of Economics Instruction in Two-Year Colleges," *J. Econ. Ed.*, Fall 1972, *4*(1), pp. 5–12.
171. WEISBROD, BURTON A. "Research on Economic Education: Is It Asking the Right Questions?" *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 14–21.
172. WELLS, STUART. "The Effectiveness of Economics Education: A Survey of Research Findings," Faculty of Commerce, University of British Columbia, Working Paper Number 331, November 1974.
173. WELSH, ARTHUR L., ed. *Research papers in economic education.* New York: Joint Council on Economic Education, 1972.
174. —— AND FELS, RENDIGS. "Performance on the New Test of Understanding in College Economics,"

Amer. Econ. Rev., May 1969, *59*(2), pp. 224–29.

175. WENTWORTH, DONALD R.; HANSEN, W. LEE AND HAWKE, SHARRYL H. *Perspectives on economic education.* New York: Joint Council on Economic Education, 1977.

176. ——— AND LEWIS, DARRELL R. "An Evaluation of the Use of the Marketplace Game in Junior College Economics," *J. Econ. Ed.*, Spring 1975, *6*(2), pp. 113–19.

177. WHITNEY, SIMON N. "Measuring the Success of the Elementary Course," *Amer. Econ. Rev.*, March 1960, *50*(1), pp. 159–69.

178. YATES, JUDITH. "Research in Economics Education: Are Our Horizons Too Narrow?" *J. Econ. Ed.*, Fall 1978, *10*(1), pp. 12–17.

179. ZWEIG, MICHAEL. "Teaching Radical Political Economics in the Introductory Course," *Amer. Econ. Rev.*, May 1972, *62*(2), pp. 434–38.

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Hicks's Contribution To Keynesian Economics

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I. *Introduction*

THE PURPOSE OF this paper is to examine Hicks's contribution to macroeconomic theory in those respects in which it constitutes a response to, or a development of, the work of John Maynard Keynes. Thus, while it is narrower in scope than an attempt to assess Hicks's contribution to macroeconomic theory, it is broader in scope than an attempt to see Hicks as Keynes's interpreter: for an interpreter is judged only by the faithfulness with which he translates the material given to him; he is not required to extend, recast, criticize, or reconstruct that material. We shall be concerned, then, with what Hicks got out of Keynes's writings and what he did with it; not with what was "really" there. I therefore shall not be concerned with the authenticity or doctrinal purity of Hicks's Keynesianism.

In considering Hicks's contribution to Keynesian economics, I shall be concerned with two distinct but related matters. First, I shall be concerned, in *Sections* II and III, with Hicks's response to—and in particular his criticisms of—what Keynes himself actually wrote. Also, however, I shall, in *Section* IV, be concerned with Hicks's contribution to those ideas that eventually entered the public domain as "Keynesian economics," quite irrespective of whether those ideas accurately reflect what Keynes may or may not have had in mind at some crucial juncture of his career. I should emphasize that these two concerns are intended to consist simply of a narrower and a broader one: they do not involve a contrast between a profound and intellectually challenging "Economics of Keynes" on the one hand, to be set against a vulgar and degenerate "Keynesian Economics" on the other. Accordingly, I shall be using the term "Keynesian" in a robust sense; I use it in full recognition of the possibility of diverse shades of opinion, and of extreme or borderline cases, on the understanding that it is what all these have in common that is important.

These caveats aside, it can be said that over almost the whole range of macroeconomic theory, Hicks was, from the late 1930's onward, a whole-hearted Keynesian. The one important exception to this categorization is on the question of liquidity preference versus loanable funds theories of interest. It is on this one issue that Hicks took a firmly and consistently anti-Keynesian line; and I shall, in what follows, give a good deal of attention to this issue at the expense of such topics as wages and inflation, on which Hicks has pursued what is recognizable as an orthodox Keynesian line. As we shall see, Hicks's Keynesianism was sufficiently whole-hearted for him to be prepared to countenance a degree of analytical laxity in the interests of fostering Keynesian ideas at an early stage of their development. It is of some significance, then, to see the point at which Hicks found he had to dig in his heels and say that Keynes was simply mistaken. Very closely related to this issue is that of Keynes's caricaturing of the "Classical" theory for use as a straw man in his polemical exercises; one's attitude to Keynes as an innovator in economic theory depends quite crucially on whether this caricature is seen as cruel or merely shoddy. Accordingly, I shall concentrate a good deal of attention of Hicks's conception of "the Classics" *vis-à-vis* Keynes's treatment of them.

As well as attempting to bring into sharp focus Hicks's major criticisms of Keynes's work, it is also my intention to pursue in some detail the development of Hicks's thought, on one aspect of Keynesian economics, from the middle 1930's down to the present. The aspect I have chosen is that of expectations and the multiplier, for which the line of development leads through Hicks's own work on the trade cycle.

In taking as the starting point for the discussion Hicks's review [7, 1936] of Keynes's *General Theory* [25, 1936], we must not lose sight of the work prior to this point, work that gave Hicks such a clear and definite perspective on an obscure and discursive work. Chiefly, of course, Hicks had at his disposal the formidable analytical apparatus that was to emerge somewhat later as *Value and Capital* [10, 1939]. He had also made remarkable progress in thinking his way through the foundations of monetary theory, having achieved a firm grip on money in a balance-sheet context and the associated problems of risk in asset-holding decisions.[1] This, then, is the immediate background to our point of departure, 1936.

Hicks reviewed Keynes's *General Theory* when it appeared and, in a way, he has gone on reviewing it throughout his career (Hicks [7, 1936] Keynes [25, 1936]). His work has been animated directly or indirectly by a determination to *digest* its contents: to bring it into focus and to accommodate its message within a more robust and coherent framework than Keynes provided. It can be said that Hicks has attempted to gain first an analytical, later a historical, and finally a practical perspective on the *General Theory*. The first task is that of distilling the analytical core of the *General Theory* as an embodiment of the "Keynesian System" (this concern becomes central in "Mr. Keynes and the 'Classics' " [8, 1937]); the second task is that of providing an embodiment of the "Classical System" such that appropriate comparisons between the two systems can be made (this concern becomes central in "The 'Classics' Again" [17, 1967]); and the third task is that of reconstructing the analytical core of the *General Theory* in the light of the practical experience gained in the attempts to use this framework as a guide to policy-making (this con-

[1] For a retrospective account by Hicks of this episode in his intellectual development, see [20, 1973, pp. 4–7].

cern becomes central in *The Crisis in Keynesian Economics* [21, 1974]).[2]

The object of this inquiry is accordingly to piece together a story part of which ("Mr. Keynes and the 'Classics'" [8, 1937]) is well known and parts of which have been reconstructed by Hicks himself [20, 1973; 22, 1976, pp. 140–49; 23, 1977, pp. v–xviii]. The need to establish the overall outlines of the story results partly from the indisputable importance of Hicks's role in making the *General Theory* accessible to the economics profession at large; but is is also partly a matter of the degree of contention surrounding the exact nature of this role.

Hicks's *IS-LM* apparatus has provided an analytical receptacle of quite astonishing versatility and resilience within which even the protagonists in protracted controversies have been able to find a common framework for their disputes. As is hardly surprising, however, this apparatus fails to capture the inspirational qualities and the feeling of boundless intellectual possibilities that many found in Keynes's work of the 1930's. So those economists for whom the *General Theory* has canonical status have naturally been disposed to cast Hicks in the role of arch-traducer. All attempted revolutions—including intellectual ones—depend on the extravagant expectations of the participants; accordingly, all are ultimately disappointing and all lead to a search for scapegoats. For the disheartened Keynesian purists, then, Hicks is an obvious target; and they have not been reluctant to heap on him the responsibility for the setbacks to their early enthusiasms (see, for example, Paul Davidson [2, 1972, p. xi; 3, 1977, p. 277]; Hyman Minsky [30, 1976, p. 3; 31, 1977, p. 298]; Joan Robinson [37, 1971, pp. 82, 88, 96]; and Sidney Weintraub [42, 1977, p. 45]). Such treatment has been more conducive to the reinforcement of prejudice than the unravelling of what, as it turns out, is an intriguing episode in intellectual history.

Organizing the discussion of Hicks's criticism and development of Keynes's work in the way I have outlined provides a coverage that is by no means exhaustive. The major casualties of my attempt to present the broad outlines of the story are:

(i) The work in which Hicks provides a reconciliation of the Keynesian triad of motives for holding money with the textbook triad of functions that it is said to perform, in the course of which he arrives at the suggestive but highly problematic idea that his early program for monetary theory involved an "over-voluntarizing" of the transactions demand [16, 1967].[3]

(ii) The work in which Hicks provides a choice-theoretic formulation of the concept of liquidity and uses this as a critical tool in discussing Keynes's treatment of and attitude towards "liquidity preference" [13, 1962; 16, 1967, pp. 31–37; 20, 1973, p. 11; 21, 1974, pp. 37–57].[4]

(iii) Hicks's brief but decisive dismissal of the possibility of reaching stagnationist conclusions with the aid of Keynes's Marginal Efficiency of Capital construction [7, 1936, pp. 248–53].

(iv) Hicks's characterization of Keynes's work as a method of approaching problems of economic dynamics in relation to other such methods [14, 1965, pp. 28–35, 76–83, 104–113].

II. *Keynes's "Classics" and Hicks's "Classics"*

With what is Keynes's theory of employment, interest, and money to be con-

[2] I will be concerned here with certain aspects only of this latter work. For a more thorough appraisal of it, see Malcolm R. Fisher [5, 1976].

[3] This work of Hicks has been the object of severe criticism on analytical grounds (see Laurence Harris [6, 1969]; Morris Perlman [35, 1971]. Hicks, however, has subsequently re-affirmed his position without acknowledgement of the criticisms [23, 1977, p. xiv].

[4] For a judicious appraisal of this line of thought see Fisher [5, 1976, pp. 308–11].

trasted? It would, of course, be fruitless to compare a Keynesian model with a version of the Classical system that is simply not addressed to the same questions or problems as the Keynesian model. A saw is superior to a hammer for the task of cutting wood. But the question of whether saws are, somehow, *generally* superior to hammers is not a very sensible question. The spectacle of someone knocking in a nail with a saw would certainly invite unfavorable comment, comment that assurances about the effectiveness of saws as woodcutting devices would hardly serve to dismiss; and yet the intellectual equivalent of saw-hammering has been widespread. In other words, translating back from carpentry to economics, if we are to set up "Keynes versus the Classics" as a doctrinal dispute, we must first decide whether Keynes was giving a new answer to the question that the "Classics" (according to his caricature) had been asking, or whether he was really asking a different question.

In all this we are in great danger of becoming enmeshed in a fruitless discussion concerning the label "Classical"; with whether the "Classical" economists constituted, in some sense, a school; whether they did have any recognizable system in common; and with whether there ever was a writer who subscribed to "Classical" economics in Keynes's sense. To signal the highly problematic and contentious nature of the term, I have adopted the practice of using it only in quotation marks.

"Mr. Keynes and the 'Classics'" [8, 1937] arose out of Hicks's dissatisfaction with his *Economic Journal* review of the *General Theory* [7, Hicks, 1936]. The problem Hicks sets himself in this later paper is the following. Insofar as there is, in the *General Theory*, some coherent, systematic analytical scheme or model, what is it? The problem is one of distillation: of rendering down a whole book full of theoretical discussion into some kind of underlying model or framework, from the properties of which the major part of the discussion can be deduced or derived. Thus, the *IS-LM* model that Hicks provided as the solution to this problem was presented as an interpretation of the "analytical core" of the *General Theory*. It is evidently not intended to capture everything that is in that book; it quite obviously must disregard the polemical passages, and a great deal of discursive and speculative material. The *IS-LM* framework is offered, accordingly, not as a substitute for the *General Theory*, not as a translation of it into geometry, nor even as a summary of its arguments; rather it is offered, as the opening paragraphs of Hicks's article make plain, as a *guide* to the reader of what, without it, is an exceedingly bewildering and vexatious book. It is in these terms, I would contend, that the *IS-LM* model should be appraised: for its ability or inability to provide that guidance through the often treacherous territory of Keynes's writing.

The upshot of this paper of Hicks's is that if "Classical" economics is sympathetically understood and properly applied, the conflict between it and Keynesian economics reduces to a matter of analytical procedure or, at most, emphasis. Hicks does try to argue that there are special cases in which the Keynesian approach comes into its own. But if we are prepared to think of these extreme cases as those in which either the *IS* curve is "very steep" (almost vertical) or the *LM* curve is "very shallow" (almost horizontal), the need to choose between the approaches would not arise, the coverage of the two being identical.

When Hicks looked back on his "Mr. Keynes and the 'Classics'" piece with the benefit of a good deal of hindsight, he came to the conclusion that, although his *IS-LM* apparatus was a useful one for the exposition of Keynes's central ideas in the *General Theory*, its capacity to serve as

a receptacle for "Classical" ideas was more limited. In other words, Hicks's mature reflection was that although he had done justice to Keynes with the *IS-LM* model, he had been less than fair to the "Classics." It became apparent that the system that Keynes attacked, and with which he contrasted his own work, was not a sympathetic distillation of the best of "Classical" thinking, but a rather stiff, wooden caricature of a "Classical" economist—of a "Classical" economist who animates his ideas in a thoroughly awkward way. If it is true that the more thoughtful and shrewd of the "Classical" writers had been fully alert to "Keynesian" problems (problems of the influence of monetary conditions on real phenomena) and, indeed, deeply troubled by them, then the discontinuity between "Classical" and "Keynesian" becomes less abrupt: more a matter of emphasis, focus, and analytical procedure than of substance.[5]

Bearing all this in mind, I shall now attempt to give a resumé of Hicks's argument in "The 'Classics' Again" [17, 1967].

The "Classical" approach is to think of the rate of interest as determined by saving and investment ("thrift and productivity"); the Keynesian approach is to think of it as determined by the state of liquidity preference. But consider the effect of an increase in the propensity to save. The "Classical" economist would say that this would decrease the rate of interest; but, if he were careful and thorough, he would point out that, with a fixed money supply, this would, as a result of reducing the velocity of circulation ("hoarding"), lead to some downward pressure on output and employment, unless money wages are instantaneously adjusted. The Keynesian economist, on the other hand, would say that the increased propensity to save would (with slower than instantaneously adjusting money wages) reduce output and employment; but, if he were careful and thorough, he would go on to point out that, with a reduced demand for transactions balances and a fixed supply of money, there would be some downward pressure on the rate of interest. Both the "Classical" and the Keynesian economist would get the same result, provided only that each follows the analysis through rather than abandoning it after the first step. At this level of generality (that is, unless we are in a position to place some restrictions on the parameters of the model), the choice between the "Classical" and the Keynesian approach is merely a matter of procedure. Of course, within Hicks's *IS-LM* framework, the need to choose one approach rather than the other is not so pressing, for we can simply say that income and the rate of interest are simultaneously determined by *all* the parameters of the system: there is no reason at all why we should want to match up particular endogenous variables with particular subsets of parameters.

What Hicks does next is to introduce the assumption of some wage inflexibility (not the assumption that money wages are rigid, but that they are less than perfectly flexible, at any rate in the downward direction) into an otherwise "Classical" approach. What then follows is that there will be a downward-sloping *IS* curve over the region in which money wages are in some degree inflexible. The reason for this is that if a change in the propensity to save (or to invest) has monetary consequences then, with a given supply of money, there must be an adjustment either of money wages (and prices) or of interest rates. To the extent that money wages (and prices) are inflexible, some of the burden of adjustment is thrown onto interest rates, and hence the *IS* curve slopes downwards. Of course, the range

[5] Keynes himself was evidently persuaded of the revolutionary nature of his own work, as his much-quoted letter to George Bernard Shaw of 1 January 1935 makes clear [27, 1973, pp. 492–93].

over which the system can respond to monetary changes by real (output) adjustments is limited. For simplicity we can think of it as limited at the upper extreme by something that we call "full employment," *FE*; we can similarly think of a lower limit to this region, where, for whatever reason, wages and prices (rather than interest rates) take over the burden of adjustment. (Hicks calls this point "Full Unemployment," *FU*). Within the *FU-FE* region, the system behaves in accordance with the *IS-LM* model and can be analyzed in either the "Classical" or the Keynesian manner, provided the repercussions are properly dealt with. Outside this region, the system behaves in a "Classical" manner: all the burden of adjustment is shouldered by money wages and prices, and the *IS-LM* apparatus becomes irrelevant.

The next step in Hicks's argument is to point out that the extent of the *FU-FE* region is really a matter of the time-scale we have in mind. If we are thinking of an *immediate* response of money wages and prices, the *FU-FE* region may be wide; if we are thinking of an *eventual* response, the region will be much smaller. The reconciliation of the two approaches is then within our grasp. The *IS-LM* model provides an apparatus for short-run problems, while the extreme ("caricatured") "Classical" model provides an apparatus for the analysis of long-run ("full equilibrium") problems. The horizontal *IS* curve, or the "Classical dichotomy" (of real and monetary phenomena) then becomes a characteristic of long-run equilibrium, having no obvious bearing on short-run resource utilization and employment problems.

One obvious implication of this is that, if one insists on taking a gladiatorial view of the episode and on seeing it as "Keynes *versus* the 'Classics'" (as so many textbooks have done), then one has to be rather careful in one's choice of appropriate contestants and in one's method for recognizing the winner. If this particular contest is to be fought over the issue of short-run resource utilization and employment questions, then to pit Keynes against the "Classical" long-period, full equilibrium model is neither appropriate nor illuminating. It guarantees that Keynes wins by a knock-out, but it achieves this only by arranging for his "Classical" adversary to fight with both hands tied behind his back. To make anything like a contest of it, we need to ask what the "Classical" writers had to say about the problem that Keynes was himself addressing. That is to say, we have to find out, not what the "Classical" writers said about things in general, but about short-run resource utilization and employment problems. Then we can have a contest, if that is the way we want to think.

Leaving "The 'Classics' Again," we turn to another paper by Hicks that was given as a lecture in 1967 [18], and which carries forward the same theme, namely, that the "Classical" writers did have a short-run monetary theory and that it is with this, rather than their long-run "full equilibrium" theory, that Keynes's *General Theory* should be compared. This paper, titled "Monetary Theory and History—An Attempt at Perspective" [18, 1967], is aimed at giving some historical depth to the wholly analytical treatment of this theme in "The 'Classics' Again". Hicks does this in various ways: by considerations involving the history of monetary theory; by considerations involving the history of monetary institutions; and by conjectures about the relationship between the two.

Hicks's treatment of the "Classical" short-run theory of money centers on the work of Henry Thornton and John Stuart Mill, and its foreshadowing in the writings of David Hume. He points out that these writers were perfectly well aware that monetary expansion could have real effects, on output and employment, in the period in which prices are rising to their

new level. (This is unmistakably clear in Hume.) To the extent that these writers believed in the Quantity Theory of Money and the associated "Classical Dichotomy," they did so only in the sense of a (long-run) equilibrium condition, applicable to circumstances in which all the adjustments to a monetary change have taken place. Hicks suggests that at the hands of David Ricardo, where the whole focus of attention is on equilibrium states, Hume's insight about the nature of the process of adjustment to monetary change becomes submerged. Hicks had in fact arrived at this point somewhat earlier in *Capital and Growth* in connection with his discussion of Adam Smith's approach to the theory of growth [14, Hicks, 1965, p. 42].

Hicks's conjecture as to why these "Classical" writers did not place more emphasis on these short-run real consequences of monetary changes is that it was a source of intellectual embarrassment to them; for it led to a conclusion that their instinct told them was wrong, but which they could not dispose of by analytical argument. In Hicks's words [18, 1967, p. 162]:

> They [the "Classical" writers] were terribly afraid that if too much weight were given to short-period effects, it would play into the hands of crude inflationists. The long-period, it would be said, is just a succession of short-periods. Why not keep the stimulus [of monetary expansion] going, when the first dose is exhausted, by another dose? They were afraid of that question, for they did not know the answer to it. Yet they felt in their bones that the suggestion in it was wrong.

The instincts that Hicks is here attributing to the "Classical" writers are instincts that display an awareness of both the possibility of monetary changes having real effects and of the dangers of attempting to exploit this possibility. Accordingly, Hicks's "Classics" are inhibited in their policy pronouncements by anxiety, unlike Keynes's "Classics," who are held back by ignorance.

III. *Liquidity Preference and Loanable Funds*

In discussing the relationship between the work of Keynes and of Hicks, there is a third individual who must make an appearance sooner or later. That individual is Sir Dennis Robertson. There are at least two reasons why he should be brought into the picture. First, of those who were critical of the monetary theory of Keynes's *General Theory,* Robertson's critique was perhaps the most penetrating and certainly the most lucid [36, 1940].[6] Second, the analytical basis of Robertson's critical response to Keynes's theory of money and interest is practically identical with the basis of Hicks's sympathetic response. Thus, we have the intriguing state of affairs, as regards the monetary and interest theory of the *General Theory,* that Hicks and Robertson agreed with one another as far as any purely *analytical* questions were concerned, and yet disagreed quite fundamentally in their overall assessment of the merit of the theoretical developments involved.

We shall consider next the analytical issues, first as presented by Hicks, and then as presented by Robertson. It will emerge that Hicks and Robertson agreed that Keynes's liquidity preference theory of interest differs from the "Classical" loanable funds approach, not by virtue of its *substance,* but only as a matter of analytical procedure. In all this we adopt the usual convention that there is a plane of discourse on which it makes sense to talk of "the" rate of interest.

Hicks expounded the equivalence of liquidity preference and loanable funds ap-

[6] Further criticisms of Keynes's interest rate doctrine in the *General Theory* were advanced by, among others, Bertil Ohlin [32, 1937]; this led to a fruitless exchange in the pages of the *Economic Journal,* in which Keynes showed himself unable to distinguish between a loanable funds theory of interest, on the one hand, and a saving and investment theory, on the other [28, 1973, pp. 183–223].

proaches to the theory of interest in a very clear but necessarily condensed form in the *Economic Journal* review of 1936 [7]; this interpretation was present, although peripherally, in "Mr. Keynes and the 'Classics'" [8, 1937]. The fullest expression, by Hicks, of this interpretation, is to be found in chapter XII of *Value and Capital* [10, 1946, pp. 153–62]. Here Hicks adopts a general equilibrium framework and shows that it can make no difference of substance which price is associated with which market in our model (including among our list of "markets" one for the holding of money). Once it is admitted that each trader faces a budget constraint,[7] it must be conceded that not all markets are independent of one another. Thus, once we have embarked on *general* equilibrium theory, it makes very little sense to speak of "the price of X being determined in the market for X." Rather, insofar as one can give any causal interpretation of a general equilibrium model (and the more fastidious practitioners of the art would avoid doing so), it would be that the vector of relative prices is determined by the whole configuration of parameters (this is precisely what the reduced-form equations tell us, reading them "from right to left"). Thus, whether we eliminate the money equation (as in the "Classical" approach) or the borrowing and lending ("loanable funds") equation (as in the Keynesian approach) is entirely a matter of analytical procedure: that is, it is at most a matter of convenience.[8] All this would appear platitudinous to a general equilibrium theorist, but to someone trained in the Marshallian tradition of partial equilibrium analysis it goes against the grain. The disposition to think of each price as determined in the market in which the good in question is traded dies hard. Accordingly, controversy about whether the rate of interest is determined in the market for "loanable funds" (by borrowing and lending) or in the money market (by liquidity preference) was rife in the late 1930's and beyond, despite the existence of a well articulated framework in which the controversy could be shown to depend on a false dichotomy: to involve the setting up of a misguided opposition of views that can be very readily reconciled with one another. But how much interest was there in England (outside the London School of Economics) in the work of Walras before *Value and Capital*? To the extent that British economists of this period were either unaware of, or uninterested in, the economic theory of Walras, we may attribute some of the pointlessness and inconclusiveness of this controversy to a state of intellectual insularity.

Leaving Hicks for the moment, we turn to Robertson's treatment of the same issue. Robertson set out his criticisms of Keynes's *General Theory* doctrines on the rate of interest in a series of lectures given at the London School of Economics in

[7] S. C. Tsiang has pointed out that what is usually referred to in this context as a "budget constraint" or an "income constraint" has in fact got nothing to do with either budgeting or income [40, 1966, p. 331]. Rather it expresses the supposition that goods are acquired only through acts of trading in which equal values are exchanged. Accordingly, Tsiang suggests, this condition should properly be called a "fair exchange constraint."

[8] A reservation should be noted concerning the discussion so far. It is that we have been concerned with the equivalence of "Classical" and Keynesian theories of the rate of interest within the confines of equilibrium analysis. It is another question whether the equivalence still holds if we widen our horizon to include the possibility of disequilibrium states. It has been argued by some that the equivalence cannot be sustained in the wider context and that, indeed, where the two theories diverge, it is the liquidity preference theory that gives the "wrong" results regarding interest rate movements (Don Patinkin [33, 1958]; Harry G. Johnson [24, 1961]). But this has been disputed by Tsiang, who has argued that, if the analysis is followed through properly, the equivalence holds under both equilibrium and disequilibrium states [40, 1966, pp. 340–41]. But the Tsiang argument depends on the insistence that the "net acquisition of cash through trading" is not the same thing as the "demand for money," a distinction that many monetary theorists find hard to accept.

1939 [36, 1940]. His objections to the claim that Keynes's liquidity preference theory of interest is either novel or in substantive conflict with the "Classical" loanable funds approach are made very clear [36, 1940, pp. 1–28]. The point, as it turns out, is a purely logical one: that whatever something *is*, there are many things that it is not; and it hardly makes much sense to say, of the various things that it is not, that one of them rather than another, is what it *really* isn't. And yet this is what Keynes was claiming: that there can be priorities among what something isn't.

The individual trader may dispose of his money income by allocating it between the following three exhaustive and mutually exclusive categories:

(i) spending (on commodities);
(ii) lending, *i.e.*, buying bonds;
(iii) hoarding, *i.e.*, additions to money holding.

In the light of this classification, let us turn to the controversy over the determination of interest rates.

The "Classical" idea was that interest is the reward for *not-spending, i.e.*, it is the inducement to refrain from spending. In apparent contrast, the Keynesian doctrine is that interest is the reward for *not-hoarding, i.e.*, it is the inducement to part with liquidity.[9]

The resolution of this apparent conflict between the "Classical" and the Keynesian doctrine now emerges. In terms of our categories for the disposal of income, the resolution is that lending is, at one and the same time, both not-spending *and* not-hoarding, in just the same way that being Keynes is, at one and the same time, to be both not-Hayek and not-Beveridge; and in just the same way that arguing whether Keynes is really not-Hayek rather than not-Beveridge is a pointless exercise: one can hardly establish priorities among what someone (or something) is not.

Keynes never conceded the force of this objection, nor did he ever explain why he thought it misguided or beside the point. He obviously had no patience with this particular line of argument and opposed it by dismissive counter-assertion. When Roy Harrod suggested that the liquidity preference theory of interest might need some qualification, Keynes wrote back complaining that Harrod had not understood him; just as, later in correspondence with Ohlin, he was to denounce the loanable funds theory as a "fundamental heresy," while neglecting to explain what was wrong with it; and in an article simply reiterating that this theory and his own liquidity preference theory were "radically opposed" without explaining how their implications differed [27, 1973, pp. 544–52; 28, 1973, pp. 185, 202]. Well, Keynes was a forceful personality, and he was used to getting his own way in arguments. Of course, one can see what he was driving at. One needs an inducement for people to refrain from consumption to free resources for investment insofar as resources are scarce. But if there are unemployed resources anyway, there is no longer the necessity for consumption to be reduced to release resources for investment: there exists the possibility of mobilizing the unemployed resources without any current consumption being foregone. So much is unexceptionable at the level of abstract possibilities. But the question then arises: can one, in a market system, absorb unemployed resources in expanded investment, quite independently of, and without having any effect on, interest rates? As we have seen, Hicks's pains-taking analysis shows that

[9] Thus, in Keynes's own words, we read: "The habit of overlooking the relation of the rate of interest to hoarding may be a part of the explanation why interest has been usually regarded as the reward of not-spending, whereas in fact it is the reward of not-hoarding" [25, 1936, p. 174]; see also [25, 1936, pp. 166–68] and, for the faithful reproduction of this attitude see, for example, Dudley Dillard [4, 1958, p. 164].

the answer is "no": only in the extreme case of a perfectly horizontal *LM* curve do we have a monetary sector in which the interest rate is determined independently of real forces.

Although there was some sense in Keynes's instinct about the functioning of interest rates in a depression, his attempt to translate this instinct into a model, a piece of analysis, is flawed. But Keynes evidently had unshakable confidence in his own instinct and continued to defend (what he took to be) his analytical expression of it. And so began a protracted debate on "liquidity preference versus loanable funds," which Patinkin has rightly described as "pointless and depressing" [34, 1976, p. 140].

It is not a matter of this criticism from Robertson coming too late: that the book was in print and Keynes had to stand by what he had written. In fact Robertson had made the point that the rate of interest is determined jointly by the influence of the propensity to save and the productivity of capital, as well as by liquidity preference, when he was sent the proofs of the *General Theory* in February 1935. Evidently, however, Keynes was not prepared to countenance such doubts [27, 1973, pp. 512–20].

There is no doubt that, at almost all intellectual and practical levels, Keynes's instinct won the day against Robertson's analysis. It is a considerable tribute to Keynes's powers of persuasion that, having got himself into a muddle, he could induce the major part of the profession to share it with him. Accordingly, the liquidity preference theory of interest duly became enshrined in a crop of textbooks, presented as being both a *new* theory and a theory in substantive *conflict* with the "Classical" loanable funds theory.[10]

Although Robertson was, as we can now see, correct, where Keynes was wrong, his criticisms were not well taken. Even Hicks, who, as we have seen, agreed analytically with Robertson's line of argument, eventually came to see them as rather carping. He wrote [9, 1942, p. 54]:

> For my own part, I rather regret the amount of criticism contained in these essays [Robertson's *Essays in Monetary Theory*, 1940]—particularly in that printed at the beginning of the book, the London lectures of 1939. ["Mr. Keynes and the Rate of Interest"]. Of all great economists, Mr. Keynes is probably the most Impressionist; the *General Theory*, in particular, needs to be read at a distance, not worrying too much about detail, but looking principally at the general effect. At least, that is how I have read it myself, and it seems that as a result I retain a higher opinion of it than Professor Robertson does. His own criticisms sometimes remind one of a man examining a Seurat with a microscope and denouncing the ugly shapes of the individual dots. It is very probable that the Impressionist method is not particularly appropriate to the higher economics (though it may be suitable enough for more popular writing); however, it is Mr. Keynes' method, and in his hands it has some countervailing virtues.

It is evident that Hicks is here advocating that Keynes's work—and particularly his theory of interest-rates—be read in a charitable spirit. But his metaphor of Impressionism and Seurat, although vivid and suggestive, is not really convincing, and is arguably not very apposite. Clearly, just as one should see a painting as a whole rather than examining the appearance of its elements, so one should read abstract theory and analysis with an eye on the overall tendency or upshot. But although a metaphor may suggest an argument, it does not itself constitute one. What is supposed to correspond, in Keynes's work, to the shape of the individual dots in the Seurat or to the judgment that they are ugly? Is it being suggested that, just as one can create a pleasing painting from elements that may be individually unattractive, so one can expound a correct doctrine out

[10] See, for example, Dillard [4, 1958, pp. 162–63] for a particularly faithful (and forceful) reproduction of the whole Keynesian interest rate muddle.

of analytical exercises that are individually mistaken (or confused)? If this is the suggestion, it really needs to be argued; and it does seem to be advocating a degree of charity that one would not generally advocate and that, if it were advocated as a general rule, would amount to the abandonment of the idea that economics is an academic, intellectual activity, which can make progress through a process of criticisms and rational discourse. It seems to be suggested that in the case of Keynes we should assess his conclusions independently of the weight and soundness of the arguments he uses to arrive at them: it amounts to the proposal to treat Keynes as *authoritative*.

One way of interpreting Hicks's position is to say that he was comparing the performance of the "Classical" approach with (what he took to be) the *potential* of Keynes's approach.[11] This is, of course, a dangerous comparison to make, for there is far more scope for enthusiasm in forming one's estimate of Keynesian potential than there is in perceiving "Classical" performance. Indeed, intellectual innovation and progress demand that we are prepared on some occasions to permit such dangerous comparisons, in which our conjecture about the potential of an undeveloped research program is compared with the much firmer knowledge of the performance of existing approaches. But equally the fact that scholarship should not degenerate into mere matters of faith or fashion requires that there be some limit on how long we treat a research program as "promising": there must come a time when we are prepared to judge the new approach in terms of its performance. To require that a particular approach be given the permanent benefit of the doubt is to require that others should share not only one's own (necessarily speculative) conjectures about future intellectual developments, but also that they share one's current enthusiasms. It is, in short, to convert research into proselytizing.

The reason all this has a bearing on Hicks is that he found himself with a foot in both camps. On purely intellectual grounds, he was with Robertson; on the wider view, he was with Keynes. The only question that remains is whether he would see the debate in purely intellectual terms or, as we might say, pragmatically, in the light of existing circumstances. It could not have been an easy or pleasant dilemma to live with.

Robertson's criticisms of Keynes's theory of money and interest were not confined to Keynes's claim that the liquidity preference and loanable funds approaches were "radically opposed." He also advanced the argument that "liquidity preference" (in relation to the money supply), far from determining the rate of interest, actually leaves its determination dangling in mid-air. This criticism focuses on Keynes's well-known theory of the speculative demand for money, in which considerations of expected capital gains and losses resulting from fluctuations of the interest rate about some normal rate (about which estimates will differ between speculators) provide a rationale for the holding of money balances (rather than bonds), to an extent depending on the expected movement of interest rates, and therefore

[11] Those I have elsewhere called the Fundamentalist Keynesians [1, 1976, pp. 1259–63] continued to make this comparison of (neo) "Classical" performance versus Keynesian potential even after the Keynesian approach had had several decades in which to realize its potential. Their writings on the theory of money and interest tend therefore to be essentially programmatic: their writing concerns advocacy of a particular program of research, accompanied by the assurance that this line is indeed a promising one. Thus, Joan Robinson could write, in 1973, that "The Keynesian revolution still remains to be made both in teaching economic theory and in forming economic policy" [38, 1973, p. 11]. Similarly, Jan A. Kregel could write, in the same year: "To ask for an alternative to the neoclassical theory comparable in precision and beauty is naive. But the *potential* for a truly alternative ["post-Keynesian"] approach exists, the problem is to expose and explain this potential . . ." [29, 1973, p. xvii, emphasis added].—

on the level of interest rates relative to the level that is believed to be normal. All this is now standard textbook fodder. Speculators adjust their portfolios in order to make capital gains or avoid capital losses, and they do this by making substitutions between money and bonds in the light of their expectations. Even leaving aside the "transactions demand" for money, as being a further consideration that must be introduced before we can say anything definite, can this be an adequate account of the elements involved in the determination of the rate of interest? Robertson's answer is "no" [36, 1940, p. 25]:

> Mr. Plumtre of Toronto, in an unpublished paper, has aptly compared the position of lender of money under this theory [Keynes's theory of the speculative demand for money] with that of an insurance company which charges its clients a premium, the only risk against which it insures them being the risk that its premium will be raised. If we ask what ultimately governs the judgements of wealth-owners as to why the rate of interest should be different in the future from what it is to-day, we are surely led straight back to the fundamental phenomena of Productivity and Thrift.

It had long been known that the market rate of interest (which, of course, is a money rate) can diverge from the "underlying, real rate"—the rate that would have obtained in the absence of monetary disturbance, if the monetary system worked so as to reveal rather than disguise the real forces. (Indeed this is central to the teaching of Knut Wicksell.) The monetary disturbance can come from the workings of the banking system, from the policy of the central bank, or from the behavior of speculators. Keynes introduces, and indeed focuses on, such monetary disturbances in the determination of interest rates. What he does not tell us is what it is that is being disturbed: what the monetary disturbance is a disturbance *of*.

Keynes's theory of the speculative demand for money must therefore be seen as an essay in the economics of pure chaos. The specualtors speculate, but what are they really speculating *on*? The answer Keynes gives is the behavior of other speculators. Of course, when it comes to the *practice* of speculation, Keynes must be admitted to be something of an authority. And when one plays the market on the basis of day-to-day trading with a view to capital gains (rather than income), then one clearly does not spend much time pondering on the forces of productivity and thrift that lie behind the general *level* of interest rates (and the return on other assets) about which day-to-day fluctuations take place. When one boils a pan of soup, the surface bubbles; but in order to have bubbles one has to have a surface and, for this, one has to have soup. It is true that the bubbles are *on* the surface, but what is it that keeps them up there? The answer cannot confine itself to the process of boiling or of bubbling; it must pay attention to the amount of soup in the pan. To one who has learned to float among the bubbles, this may not be at all apparent. He may even be led to the view, firmly based on first-hand experience, that soup is really nothing but bubbles; and that bubbles, in their turn, are entirely a matter of boiling (a dynamic process), not of such static, timeless, unhistorical things as the quantity of soup and the base area of the pan. Indeed, if the issue were not so vividly concrete, there could develop a controversy between the boiling and bubbling school, on the one hand, and the exponents of the area and volume approach, on the other. The view that a boiling and bubbling approach could be concerned with just another aspect of what was being considered by the area and volume approach would not sound very plausible. Volumes and areas can neither boil nor bubble. The exponents of the boiling and bubbling school would naturally insist that the two theories are radically opposed.

IV. *Expectations and the Multiplier Process*

In the Keynesian system, the multiplier serves as the link between changes in investment expenditure and changes in real income and output: it is the process by means of which changes in expenditure become pervasive and come to have pervasive influence. The question that immediately suggests itself, however, and which Keynes himself did not tackle, is that of the circumstances under which the multiplier will operate at all reliably. It is obvious, of course, that in order for a general expansion of output to be possible, there must be spare capacity; it is also well known that the existence of a reliable connection between investment changes and income changes depends, at least, on there being a stable consumption function (this component of the multiplier process has accordingly been closely scrutinized). But that is by no means all there is to it. For there remain the questions of why and how the various changes in expenditure are supposed to be translated into changes in real output. Thus:

(i) Why should the change in investment expenditure appear as a change in real investment rather than an increase in the price of capital goods and the rate of interest? Why does it not result in a reduction in expenditure (and thence investment) elsewhere in the economy?

(ii) Why should producers, when they experience increased sales resulting from the additional expenditure, respond by increasing output and employment rather than by allowing inventories to fall or by raising prices?

The questions concerning the extent of price level changes associated with the multiplier process are by-passed in Keynes by the device of working in real terms (or, in Keynes's own version, in "wage units") and, in this respect, Hicks has largely followed suit, except for his attempts, latterly, to introduce a distinction between fixprice and flexprice markets so that the multiplier theory would apply strictly if all markets were of the fixprice type [21, 1974, pp. 23–30].[12] But the remaining questions, concerning the manner in which production may respond to expenditure changes that are presumed to be real (and persistent) is indeed tackled by Hicks [21, 1974, pp. 9–30]. In this way he may be thought of as putting forward the elements for a theory of expenditure-induced macro movements in which crowding out and, to some extent, price level movements, appear, along with the multiplier process, as possibilities. As we shall see, in unravelling the processes in which the operation of the multiplier are embedded, the treatment of producers' expectations—how we suppose that they are formed and revised and, in particular, how we can render their treatment analytically manageable—is crucial. And as we shall also see, if the lines of development initiated by Hicks are pursued, one is confronted by the need for a more explicit and detailed formulation of the theory of the adjustment of expectations by producers, a need that leaves the theory of the multiplier looking far more like a black box of the kind that is said to preclude access to the precise workings of the monetarist model.

Hicks first turned his attention to the operation of the multiplier in his original *Economic Journal* review of the *General Theory* [7, 1936]. There he raises the general question of the circumstances regarding supply elasticities that are required for the operation of the multiplier. In particular, he draws attention to the role of stocks of various kinds in sustaining the multiplier process, while the initiating expan-

[12] There are, however, serious obscurities involved in Hicks's use of the fixprice concept, as Fisher has pointed out [5, 1976, pp. 306–07].

sion of investment expenditure is being translated into increases in output and employment.

In his recent revision of the theory of the multiplier, Hicks again lays great stress on the role of inventories in sustaining the multiplier process [21, 1974, pp. 11–23]. His focus is on what we might call the "breathing space effect." Hicks's reasoning is as follows. Between an increase in investment expenditure and the associated increase in production, there will be a time lag. During this time lag, expenditure will have increased, but production is still unchanged, so that (unless we happen to be in a phase of rapid planned stockbuilding) over this period inventories will be falling. As production levels are finally increased, the locus of falling inventories is transmitted backwards through the whole network of production, finally reaching stocks of raw materials. Now, provided this expansionary impulse succeeds in getting itself transmitted through the whole network of production, the level of economic activity can reconstitute itself at a higher level, consistent with the increased expenditure. But suppose, at some stage in the network of production, inventories are depleted before revised output decisions can be implemented. This means that there is a shortage, or bottleneck, for those producers who use this output as an input. In such circumstances, prices may be forced to play their allocative role (or some other method of rationing may induce a process of reallocation). It is at this point that any idea of a uniform or overall or pervasive increase in the intensity with which existing resources are utilized must break down. For the obstacle to the expansionary process is a problem of relative scarcities, in which the resources that are required to sustain the expansion have to be released from alternative uses.

According to Hicks's account, then, the conditions favorable to an expenditure-induced expansion are that inventories are relatively high in order to sustain the expansion during the lag between changes in sales and changes in production. (In fact, this analysis can be translated, as Hicks does, from fixprice into flexprice terms; in the latter case, the circumstances conducive to fiscal leverage are that the prices of the relevant goods are low compared to some "normal" level of prices, so that stocks will be released as prices rise in response to the production increase.)

But Hicks does not go on to ask the questions: why should inventories in general be abnormally high?

Such a question brings us inescapably to the role of expectations in the multiplier process. Again, this is an issue that Hicks first raised in his original review of the *General Theory* [7, 1936, pp. 242–43].

In that review, Hicks makes the point that in Keynes's method of analysis, long-term expectations are to be regarded as part of the *data* of the problem. The analytical problem then, Hicks makes clear, is to find an equilibrium relative to a particular set of (given, long-term) expectations. As regards the determination of this short-period equilibrium, however, it is taken for granted, by Keynes, that short-term expectations (regarding current sales) are always fulfilled. Thus, when expenditure changes, short-term expectations underlying production and employment decisions are (correctly) revised, but long-term expectations underlying investment decisions are unaffected and, in Keynes's system, stubbornly pessimistic. This seems straightforward enough. But to distill this from the *General Theory* is a considerable feat, for the *General Theory* is a somewhat opaque piece of work. Here Hicks had the considerable advantage of being able to appreciate Keynes's method in the light of the method he was

himself developing in the course of working on *Value and Capital,* that is, the method of temporary equilibrium. Hicks would be able to discern that what Keynes had hit on was not itself the method of temporary equilibrium (it was not nearly well-defined and systematic enough to constitute that); but on the other hand it had much in common with this method, in particular its device of considering an equilibrium relative to expectations extending beyond the considered time-period, expectations which, from the point of view of that time-period, must be treated as "data." It is evident that such a method has great attractions—it appears analytically very powerful in its ability to disentangle (or even to define) specifically short-run problems. Of course, this can be achieved only at the expense of the shockingly artificial separation of expectations into a short-run component (which is always fulfilled within the current short-period) and a long-rung component (which is given, and completely impervious to what goes on within the current period). Of course, such a method cannot be justified (or not directly justified) on any kind of empirical grounds: its only possible justification is on grounds of analytical convenience: it enables us to proceed with theorizing that can be made manageable and has some chance of reaching definite conclusions. The only legitimate defense of using such a dangerous method would be to claim a full appreciation of its limitations and a constant awareness that in practice short-run problems do not appear neatly packaged and guaranteed independent of the longer-run considerations arising from the economic processes in which they are embedded, and from which they have been abstracted by analytical fiat.

As it happens, Hicks was himself to make extensive use of the multiplier, some years later, as a component of his justly celebrated *Contribution to the theory of the Trade Cycle,* in which he put forward an ingenious cycle-generating mechanism involving a basically explosive cumulative movement constrained to oscillate by floors and ceilings [11, 1950, pp. 95–107]. In looking at this monograph from the point of view of the use and development of the multiplier theory, we should not lose sight of the task to which the theorizing is directed, the skill with which this task is achieved, and the need, in making this possible, to brush aside a number of complications to the postulated cyclical mechanism.

One such complication that is recognized, discussed, but finally avoided is the role of inventories in the cycle [11, 1950, pp. 38–39, 47–55]. It is avoided by the device of choosing the time period of analysis to be the length of time (assumed constant) that it takes for output to be increased sufficiently to offset the rate of inventory decumulation resulting from an initiating rise in expenditure: the increase in *realized* net investment accordingly appears always one period later than an increase in *planned* net investment [11, 1950, pp. 53–54]. This leaves working capital as a spear-carrier in a drama having fixed capital in the leading role.

When we come to the treatment of expectations, however, it becomes necessary to read between the lines of Hicks's monograph. What we find between the lines is that in the multiplier/accelerator model adopted, production decisions (proximately governed by the multiplier) are always based on correct expectations about current sales; investment decisions (proximately governed by the acceleration principle) are always based on mistaken expectations about the trend in sales, the mistakes arising from producers' naive extrapolation of cyclical movements in order to determine the requirement for *fixed* capital. The mechanism of the model accordingly involves producers in constantly mistaking cyclical changes in

sales for secular ones; never learning that this is what they are doing; but perfectly anticipating the cyclical changes that are being persistently misinterpreted. The producers in such a world display a curious conjunction of short-run intelligence and long-run stupidity, a conjunction that is not exposed to view, the treatment of expectation in this monograph being left out of focus. This lack of explicitness is made evident by the fact that Hicks felt it necessary to emphasize, in the Preface to the third impression of the book that: ". . . the inducement of investment, as I conceive it, and as it is described in Chapter IV, is not a mere matter of technical necessity; it works through the state of mind of entrepreneurs, having a close connexion with with what I have called in another place the 'elasticity of expectations' " [12, 1956, p. vi]. But the rather cavalier treatment of expectations in the trade cycle monograph cannot be seen as a mere oversight, as this postscript might suggest; rather it is absolutely necessary to get results from the multiplier and accelerator used in combination. It leads to the most glaring deficiency of the multiplier-accelerator model, namely that it generates a cycle which, no matter how regular it is nor how often repeated, remains a source of continual surprise to transactors; they never learn that booms give way to recessions, nor that recessions are superseded by recoveries.[13]

We may conclude that the main source of instability making for cumulative movements in the multiplier-accelerator model is the irrational expectations that are built into the acceleration principle as a theory of investment in *fixed* capital. Now the irrationality of long-run expectations was something vigorously propounded by Keynes in the *General Theory* and constitutes his ground for seeing investment in fixed capital as the volatile, destabilizing element in the economy. So it is of considerable interest that Hicks should reconsider this aspect of the *General Theory* some 20 years after completing his work on trade cycle theory. He writes [19, 1969, p. 313]:

> When I reviewed the *General Theory*, the explicit introduction of expectations was one of the things which I praised; but I have since come to feel that what Keynes gave with one hand, he took away with the other. Expectations do appear in the *General Theory*, but (in the main) they appear as *data;* as autonomous influences that come in from outside, not as elements that are moulded in the course of the process that is being analysed. Perhaps it is that famous (but I now think rather wicked) chapter on "Long-Term Expectations" which is the root of the trouble. For one can grant that there exists an irrational element in expectations (the element of which Keynes made so much) without conceding that they are so irrational as to be random—and therefore incapable of being moulded, at least to some extent, by policy.

In seeing Keynes's chapter 12 as basically mischievous and, from the would-be theorist's point of view, nihilistic, Hicks puts himself in sharp contrast with that group of Keynesian interpreters who have seen chapter 12 as the highlight of the *General Theory:* an interpretative key to the remainder of that work and perhaps even its central message.[14] These inter-

[13] In *Value and Capital,* Hicks had touched on this matter in the following way: "Among such other causes [of the ending of a boom] we may have to include a mere sense on the part of business men that the boom has gone on about as long as booms do usually go on; so that the mere lapse of time shifts their expectations downwards. Even in a very cycle-conscious world it is hard to attach much importance to this" [10, 1946, p. 296]. But the difficulties of attaching importance to such considerations are not explained, so the remark remains enigmatic.

[14] See, for example, Davidson [2, 1972, pp. 10–32]; Minsky [30, 1976, pp. 55–68]; Robinson [38, 1973, pp. 3–6]; G. L. S. Shackle [39, 1974, pp. 67–83]. This is a sample from the group I have elsewhere referred to as "Fundamentalist Keynesians" [1, 1976, pp. 1259–63]. Members of this group have characteristically taken chapter 12 of the *General Theory* in conjunction with chapter 17 on "The Essential Properties of Interest and Money," so arriving at a concern with the possibility of macroeconomic instability arising from changes in the private sector's willingness to hold its wealth in more or less liquid forms.

preters have been greatly impressed by the destructive consequences that Keynes's chapter 12 has for the "Classical" system that he was attacking; what they fail to recognize is that the type of considerations to be found in chapter 12 would have just as destructive consequences, if they were turned in that direction, for Keynes's own positive contribution to economic analysis. In fact, the ostensibly destructive facets of the *General Theory* can be reconciled with its constructive parts only if we are prepared to look at them in terms of the *tactics of persuasion,* rather than in terms of abstract propositions and their logical relations. One can make most sense out of the *General Theory* by regarding the destructive parts as being concerned with clearing the grounds to make room for the constructive parts.

I would therefore argue that Hicks's is a sounder interpretation of the *General Theory* than that of those who take chapter 12 at its face value. It appears that one can make far more sense of Keynes's position as a whole by treating chapter 12 as a manifestation of animal spirits rather than as a carefully considered piece of analysis.

V. *Concluding Remarks*

In coming to an assessment of Hicks's contribution to Keynesian economics, we have to distinguish between his commentaries on Keynes's own writing (where I have focused on the points of clear disagreement) and his work on the development of what can be broadly considered as "Keynesian" ideas, in which sphere I have focused on one particular theme. Putting the two spheres together, we see Hicks as both one of the most severe critics of Keynes's own analysis *and* as one of the most vigorous and persistent of those who have tried to refine and strengthen the basic ideas that emerged from the controversy instigated by Keynes. The contrast is an instructive one, for it shows that the whole-heartedness of Hicks's Keynesianism manifests itself despite a clear awareness on his part of the analytical shortcomings of the particular form it had then been given. All this is at its clearest in Hicks's disagreement with Robertson over the theory of interest, for in that case the two were in complete agreement on all relevant analytical matters. The disagreement concerned Hicks's belief that, despite all the admitted analytical shortcomings of the *General Theory,* Keynes was onto something: that the important thing was not what he had succeeded in saying, but what he was trying to say. In sensing that Keynes was onto something, Hicks must have been very much conditioned by the feeling that the something seemed in many respects to be very much like what he was onto himself; but how much of his own well-developed insights was he reading into Keynes's work?

Within the first sphere of the interpretation and criticism of Keynes's *General Theory,* we have seen that the tasks that Hicks set himself were partly expository—restating Keynes's ideas with an increased degree of analytical discipline—and partly a matter of adjudicating Keynes's claims, the analytical restatement being such as to make this possible. His verdict is that Keynes was misguided in presenting his own theory as an attack on and as in conflict with the "Classical" system. The "Classical" system that Keynes set up as a target for attack was simply addressed to different sorts of problems from those he was concerned with and, worse still, ignored those aspects of the writings of the "Classics" that were concerned with precisely his sort of problems. Keynes's method of associating national income determination with saving and investment decisions on the one hand, and interest rate determination with asset-holding decisions (as between money and bonds) on the other, is demonstrated by Hicks to be

not a new theory but rather an alternative analytical procedure which, properly handled, leads to the same results as the previously-adopted procedure. This all seems very hard on Keynes; and so it is. And yet one cannot begin to appreciate the development of Hicks's thought on the basis of this analytical verdict alone. For despite his analytical verdict's being so uncompromisingly harsh, Hicks's attitude to the *General Theory* was (after some early wavering) unambiguously favorable: indeed he regarded himself as a convert to Keynes's way of thinking (see, *e.g.* [21, 1974, p. 5]).

Within the wider sphere of Hicks's continuing development of Keynesian ideas, we have seen how Hicks's early awareness of the multifarious difficulties surrounding the multiplier construct was supplanted by a willingness to make use of this construct as a component of a postulated cycle-generating mechanism and, more recently, by a renewed interest in the difficulties he had originally discerned in its operation. It has become apparent that Hicks has repeatedly set himself the task of thinking about the multiplier as an unfolding process, in which it is necessary to understand how changed levels of expenditure impinge on, and modify, the expectation and hence the plans of producers. In this way he is effectively asking the key question for Keynesians: under what circumstances will fiscal policy have a reliable effect on the level of economic activity, and precisely what is the mechanism by which its effects reach decisions on output and employment?

References

1. CODDINGTON, ALAN. "Keynesian Economics: The Search for First Principles," *J. Econ. Lit.*, Dec. 1976, *14*(4), pp. 1258–73.
2. DAVIDSON, PAUL. *Money and the real world.* London: Macmillan, 1972.
3. ______. "Post-Keynes Monetary Theory and Inflation," in WEINTRAUB [41, 1977], pp. 275–93.
4. DILLARD, DUDLEY. *The economics of John Maynard Keynes: The theory of a monetary economy.* London: Crosby Lockwood, 1958.
5. FISHER, MALCOLM R. "Professor Hicks and the Keynesians," *Economica*, August 1976, *43*(171), pp. 305–14.
6. HARRIS, LAURENCE. "Professor Hicks and the Foundations of Monetary Economics," *Economica*, May 1969, *36*(142), pp. 196–208.
7. HICKS, JOHN R. "Mr. Keynes' Theory of Employment," *Econ. J.*, June 1936, *46*(182), pp. 238–53.
8. ______. "Mr. Keynes and the 'Classics'," *Econometrica*, April 1937, *5*(2), pp. 147–59.
9. ______. "The Monetary Theory of D. H. Robertson," *Economica*, Feb. 1942, *9*(33), pp. 53–57.
10. ______. *Value and capital.* Second edition. Oxford: Oxford University Press, Clarendon Press, [1939] 1946.
11. ______. *A Contribution to the Theory of the Trade Cycle.* Oxford: Oxford University Press, Clarendon Press, 1950.
12. ______. "Preface," in *A contribution to the theory of the trade cycle.* Third impression. Oxford: Oxford University Press, Clarendon Press, 1956.
13. ______. "Liquidity," *Econ. J.*, Dec. 1962, *72*(288), pp. 787–802.
14. ______. *Capital and growth.* Oxford: Oxford University Press, 1965.
15. ______. *Critical essays in monetary theory.* Oxford: Oxford University Press, Clarendon Press, 1967.
16. ______. "The Two Triads," in [15, 1967], pp. 1–60.
17. ______. "The 'Classics' Again," in [15, 1967], pp. 143–54.
18. ______. "Monetary Theory and History—An Attempt at Perspective," in [15, 1967], pp. 155–73.

19. ——. "Automatists, Hawtreyans, and Keynesians," *J. Money, Credit, Banking,* August 1969, *1*(3), pp. 307–17.
20. ——. "Recollections and Documents," *Economica,* Feb. 1973, *40*(157), pp. 2–11.
21. ——. *The crisis in Keynesian economics.* Oxford: Basil Blackwell, 1974.
22. ——. "Some Questions of Time in Economics," in *Evolution, welfare and time in economics: Essays in Honor of Nicholas Georgescu-Roegen.* Edited by ANTHONY M. TANG, FRED M. WESTFIELD, AND JAMES S. WORLEY. Lexington, Mass.: Heath, Lexington Books, 1976, pp. 135–51.
23. ——. *Economic perspectives: Further essays on money and growth.* Oxford: Oxford University Press, Clarendon Press, 1977.
24. JOHNSON, HARRY G. "The General Theory after Twenty-five Years," *Amer. Econ. Rev.,* May 1961, *51*(2), pp. 1–17.
25. KEYNES, JOHN M. *The general theory of employment, interest and money.* London: Macmillan, 1936.
26. ——. "The General Theory of Employment," *Quart. J. Econ.,* Feb. 1937, *51*(2), pp. 209–23.
27. ——. *The collected writings of John Maynard Keynes.* Vol. XIII. *The General Theory and after:* Pt. 1. Edited by DONALD MOGGRIDGE. London: Macmillan, 1973.
28. ——. *The collected writings of John Maynard Keynes.* Vol. XIV. *The General Theory and after:* Pt. 2. Edited by DONALD MOGGRIDGE. London: Macmillan, 1973.
29. KREGEL, JAN A. *The reconstruction of political economy.* London: Macmillan, 1973.
30. MINSKY, HYMAN P. *John Maynard Keynes.* London: Macmillan, 1976.
31. ——. "An 'Economics of Keynes' Perspective on Money," in WEINTRAUB [41, 1977], pp. 295–307.
32. OHLIN, BERTIL. "Some Notes on the Stockholm Theory of Savings and Investment," *Econ. J.,* March and June 1937, *47*(1,2), pp. 53–69, 221–40.
33. PATINKIN, DON. "Liquidity Preference and Loanable Funds: Stock and Flow Analysis," *Economica,* Nov. 1958, *25*(100), pp. 300–18.
34. ——. *Keynes' monetary thought: A study of its development.* Durham: Duke University Press, 1976.
35. PERLMAN, MORRIS. "The Roles of Money in an Economy and the Optimum Quantity of Money," *Economica,* August 1971, *38*(151), pp. 233–52.
36. ROBERTSON, DENNIS. "Mr. Keynes and the Rate of Interest," in *Essays in monetary theory.* London: P. S. King, 1940.
37. ROBINSON, JOAN. *Economic heresies.* London: Macmillan, 1971.
38. ——. "What has become of the Keynesian Revolution?" in *After Keynes.* Oxford: Basil Blackwell, 1973, pp. 1–11.
39. SHACKLE, GEORGE L. S. *Keynesian kaleidics: The evolution of general political economy.* Edinburgh: Edinburgh University Press, 1974.
40. TSIANG, S. C. "Walras' Law, Say's Law and Liquidity Preference in General Equilibrium Analysis," *Inter. Econ. Rev.,* Sept. 1966, *7*(3), pp. 329–45.
41. WEINTRAUB, SIDNEY, ed. *Modern economic thought.* Philadelphia: University of Pennsylvania Press, 1977.
42. ——. "Hicksian Keynesianism: Dominance and Decline," in Weintraub [41, 1977], pp. 45–66.

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On Coddington's Interpretation: A Reply

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I HAVE FELT bound to take the opportunity, which has been offered me, of commenting on the preceding paper; but I must confess that the task is one that I find a bit embarassing. Things written twenty or even forty years ago are fair game for the historian; it seems unfair to Dr. Coddington that the author whose work he is discussing should be still alive! It is quite a question whether the Hicks of 1979 has any more right to pronounce on the Hicks of the thirties than he has.

There are nevertheless a few things I should like to say. First of all, I do not easily recognize myself as a "whole-hearted Keynesian." I am tempted to claim that I have never been such; but, looking back with such candor as I can manage, I must admit that there have been some of my writings in which I have appeared to take for granted a quite narrowly Keynesian model. The chief of these is my book on the *Trade Cycle* [7, 1950].[1] I don't now think much of that book; with most of what Coddington says about it, I agree, and have done so for some time.[2] Regarding it as a positive "contribution" (as it claimed to be), there is not much in it; only as a critique of Harrod's extension of the Keynes theory, which is what it was in substance, can it to some extent still stand.

But I had better go back to the beginning. It is recognized by Coddington that I had done some relevant work, even before the *General Theory* [18, 1936] appeared. He alludes to my paper on "Money" [2, 1935] and to the fact that *Value and Capital* [5, 1939] must already have begun to be written (which of course is correct). But he does not allude to the paper on "Wages and Interest" [3],[3] which appeared in the *Economic Journal* in September 1935. In that paper there is a formal statement, in Walrasian terms, of the equivalence between the loanable funds determination of the rate of interest and the determination by demand for money.

[1] All dates attached to reference to my works are here, as is surely appropriate, dates of *original* publication.

[2] See comments in *Economic Perspectives* [16, 1977] pp. 177–81.

[3] Though this paper is dated from Cambridge, where I had moved in the month of its publication, it was of course written before I left the London School of Economics. I had certainly heard reports that Keynes was determining the rate of interest by supply and demand for money; my paper was in some degree a reaction to them. I mention it here because it is firm evidence that I had made up my mind on the loanable funds question before I wrote my reviews of the *General Theory*.

I had that behind me, in print, before I read a page of the *General Theory*.

It may thus be understood that my first reaction, when I did read it, was to regard it as a relative of the theory I was myself trying to construct; and as such to be warmly welcomed. It was in that spirit that I wrote my reviews. I could not make this explicit, since *Value and Capital* was far from completed; and Keynes was a great man, while I was a mere beginner. Yet I felt, from the start, that Keynes's was not a *general* theory.[4] It was his method of attack, the kind of model that he was using, of which I so warmly approved. On some, at least, of his empirical assumptions, and on the policy prescriptions that he held to follow from them, I already had some reservations.

It has not been generally noticed that the device by which I made my *IS-LM* diagram is similar to that which I used in *Value and Capital* [5, 1939], chapter 5, for collapsing a three-way exchange on to a single figure. So it also was a product of my Walrasianism. It is not surprising, in consequence, that those who were unwilling to think of the price-system as an equilibrium of related markets (Dennis Robertson on the one hand, Joan Robinson on the other) did not care for it. Neither, accordingly, was ready to admit, what seems to follow from the *IS-LM* diagram, that the Keynes theory, and the so-called "classical" theory, are both of them special cases of something *more* general.

This was not made explicit until "The 'Classics' Again" [13, 1967], on which Coddington has much to say; but I am sure that I had the substance of what I said there long before that.[5] I must have lectured on *IS-LM* almost every year from 1938 onwards; as soon as one incorporated the change in wages that (on the most orthodox Keynes) must follow on the attainment of full employment, one must soon have been driven to that kind of generalization. So when, at this stage, I counted myself a Keynesian, it was an *IS-LM* Keynesian that I meant. I was contending that Keynes's model, though an extreme case of the *general IS-LM* model, is an extreme case that is outstandingly important.

I nevertheless regret the concluding passage of "Classics Again," in which this statement appears; for already, when it was published in 1957 [9], I had moved further forward. I was already pushing on beyond *IS-LM* Keynesianism; though when, as in "Classics Again," I was doing an *IS-LM* exercise, I could find myself slipping back into it.[6]

The evidence for this is my contribution to the *Festschrift* for Erik Lindahl, a paper entitled "Methods of Dynamic Analysis" [8]; this had already appeared in 1956. Coddington, it is clear, had not seen it; and, considering the way it was published,[7] that is not surprising. Indeed, it

[4] So I remember requesting that my first review (in the *Economic Journal* [4, 1936] should be entitled "Mr. Keynes's Theory of Employment," not "General Theory."

[5] I have no direct evidence for this statement, although there is indirect evidence in the peculiar way that "The 'Classics' Again" first appeared. The content of that article was the major part of what was supposed to be a review of Don Patinkin's *Money, Interest and Prices* [9, Hicks, 1957] I found myself unable to get to grips with Patinkin, so I just fell back on what had become my standard approach to what I thought was his problem (which was very unfair to him). When I reprinted the paper in *Critical Essays* [13, 1967] the Patinkin reference was taken out, for I had come to see that it was quite inappropriate. Even so, there are things in it (as I am reminded by Coddington's quotations) that belong to a phase in my thought, which was superseded by 1967.

[6] The "Attempt at Perspective" [14, 1967], which is printed after "Classics Again" in *Critical Essays*, deals with the same question in a different way. It was written several years later and is (I now think) better balanced.

[7] It appeared in a volume entitled *Twenty-five Economic Essays in English, German and Scandinavian Languages*—enough to frighten any librarian! I ought to have reprinted it in *Critical Essays;* but I thought (I now think mistakenly) that its content had been absorbed into *Capital and Growth* [10, 1965]. It is a sharper statement than anything in the latter book.

was not until I re-read it, for the purpose of this "Reply," that I realized how important it is in explaining the development of my thought. It is the beginning of my new work in this field since that date.[8]

Its formal theme (as was appropriate for the place of its publication) was the relation between the Swedish *ex ante ex post* analysis, the method originated by Lindahl, and the method of Keynes. I contended, as in relation to the rest of Lindahl's work seems rather evident, that he began by thinking in terms of the government's budget—the *estimates* for the year that is to come, and the *actuals* for the year that is over. Both of these, it will be noticed, are flow accounts, though flow accounts of different kinds. Lindahl works entirely in terms of flow accounts. Keynes, by contrast, was thinking in terms of business accounts—income and expenditure accounts, which are flow accounts, on the one hand, and the balance sheets, which are stock accounts, on the other. It was not until I wrote this paper that I realized that the most fundamental contribution of the *General Theory*—which remains when much that is more obvious, but also more ephemeral, is cut away—was the decision to use the business accounting framework as an instrument of analysis.

I further showed, in the same paper, that one can cross this Swedish-Keynesian (public finance–business finance) dichotomy with another. It is what I have later called the fixprice—flexprice distinction, though I had not yet found that convenient terminology in 1956. I talked about fixprice markets as Q-markets, and flexprice markets as P-markets. But the meaning is much the same.

There were thus, in principle, *four* compartments. The theory that I had advanced in *Value and Capital* [5, 1939] appeared as a flexprice theory of Swedish type; while Lindahl, who could not bring himself to accept the ridiculously instantaneous price-adjustment to which I had there committed myself, had much more of a fixprice theory. Neither of these is a stock–flow theory; so they are separated from Keynes, and from variations on Keynes, quite sharply. That (incidentally) is a considerable clarification! On the stock-flow side, one could conceive of a *pure* fixprice theory, such as is sketched out in chapters 7–8 of *Capital and Growth* [10, 1965], and perhaps of a pure flexprice theory. But when one considered that in practice some markets appear to work in a fixprice manner, with prices being changed by acts of policy, while in others prices are more directly determined by supply and demand, a *mixed* model, with some markets working one way and some the other, looked better than either extreme. But that is not exactly what Keynes gave us, as I proceeded to explain.[9]

> A *complete* stock-flow theory would presumably proceed on P-lines when dealing with markets for which a P-approach was appropriate, and on Q-lines when dealing with markets for which a Q-approach was appropriate. It would show prices in the P-markets being directly determined by stock equations, with the flow relations affecting price-expectations which would react back on current prices. It would show quantities in the Q-markets primarily determined by the flow equations, but with stock relations reacting back on the flow equations by the generation of induced investment (or disinvestment). Thus in both sorts of markets both stock and flow relations would come into the picture, but their role would be different in the two cases.
>
> In contrast to this *complete* theory, we can see what it was that Keynes did. In the first place, he used a P-approach for one market only (that for bonds); all other markets were dealt with on Q-lines. (This was a superb simplification, but the procedure was by no means perfectly

[8] *Capital and Growth* [10, 1965], especially chapters 5–8 and 23; *Critical Essays in Monetary Theory* [11, 1967], especially 3, 9, 10; *Crisis in Keynesian Economics* [15, 1974]; *Economic Perspectives* [16, 1977], especially essay 3 and prefatory survey; *Causality in Economics* [17, 1979], chapters 5–7.

[9] Since this 1956 paper is relatively inaccessible, I may perhaps be permitted a long quotation.

realistic; a complete theory would surely have used P-methods for quite a number of different financial markets, and for some commodity markets also.) Next, so far as his one P-market was concerned, he concentrated attention almost entirely on the stock equation, the flow aspect of that market being pushed right into the background. . . . Thirdly, so far as all remaining markets, taken to be Q-markets, were concerned, he similarly concentrated attention on one side, this time on the flow side. (That is only justifiable if we take it that businesses are prepared to allow their stock, and indeed the whole make-up of their asset structure—to vary a good way away from its normal relation with output without taking steps to right the relation.) These, so it now seems to me, are the central simplifications which are the basis of the so-called "General Theory."

It is unnecessary to emphasise what power these simplifications give. As all experience has shown, the Keynes theory is a highly efficient theory; it is easy to use, and the range of real problems to which it can be applied is very wide. That is why it has worked a "revolution." But though it is needless to dilate upon this strength, there is one further reason for it which I have not yet mentioned. It is because Keynes reduced the whole theory of the Q-markets to their flow equations that he was able, in effect, to aggregate those markets, replacing them by a single market governed by a single relation—the Consumption function. Thus he boiled down the whole economy into one Q-market and one P-market, linked by a single price-link—the effect of the rate of interest on (otherwise autonomous) investment.

If we look at the Keynes theory in this light, we can give it full credit for its virtues—without allowing it to bamboozle us. The real stroke of genius that went to its making was Keynes's perception that the economic system of reality was moving into a shape which made it capable of this great simplification; so that a dynamic theory of exceptional efficacity had come, at least for the time being, into reach. But the Keynesian theory was not merely the child of genius; it was also the heir of luck. The world of the thirties, which was Keynesian for one reason—because the working of the price-mechanism was so largely suspended by Depression—was succeeded by the world of the forties which was Keynesian for quite another reason—because the price-mechanism was superseded by controls. But one has a feeling that the world of the fifties is not Keynesian in either of these ways; it may be Keynesian in its policies, but it is not Keynesian in its working. If there is any simplification which is appropriate to our present problems, it must be a simplification of a somewhat different character.

But it is not inevitable that there should be any single simplification which is appropriate. [8, 1956, pp. 149–50.]

All the same, since I wrote that, I have gone on looking for simplifications. The challenge that has been presented by the seventies has been sharper than that presented by the fifties, but I have tried to meet it.[10] And I have gone on trying to find simplified models of the financial sector, which should be capable of dealing with a wider range of problems than on this side the *General Theory* deals with. [11, 1967; 15, 1974, II; 16, 1977, pp. 75–80]. In all this work I have been, in a wide sense, but only in a wide sense, Keynesian; not in the sense of any literal adherence to his work, but in the sense of trying to do what I think he would have tried to do, if confronted with different real problems from those with which he was confronted.

I think that this, or something like this, has always been my attitude; and, in view of what I have said about my earlier writings, that may perhaps be accepted. It explains, incidentally, the "Seurat" passage in my review of Robertson [6, 1942] (to which Coddington gives more attention than it deserves). I was already aware that my own version of Keynes, what I had got from Keynes, incorporated no more than a part of what was in his book; but I regarded a good deal of the remainder as fumblings, or preliminary sketches which, once one had grasped the main theme, needed no further attention. I was thus a bit impatient with the textual criticism, so dear to Robertson; for I was sure

[10] Not so much in *Crisis* [15, 1974] as in the section on "Ourselves" in *Economic Perspectives* [16, 1977, pp. 86–107].

that one could be a Keynesian, in my sense (as it then was) without holding that the text of his book was divinely inspired. (I accept that the "Seurat" simile did not bring out what I meant.)

Most of the rest of that review was a tribute to Robertson, and so, I know from what he told me, he himself regarded it. He, from early days, had been very good to me; so I wanted to agree with him much more than I wanted to agree with Keynes. I have often wondered how my later writings, those written after his death, would have pleased him or displeased him. There are some things in them that might have pleased him, but I fear he would say that there were some things in his approach on which, even in *Crisis* [15, 1974], and even in *Perspectives* [16, 1977], I had not laid my hand. It is just possible that in my very latest work, which will appear at about the same time as this note [17, 1979, ch. 5–7]. I may have got nearer to it. For in that place I have ventured doubts, not just about the details of Keynes's construction, but about its basis, the stock-flow method of analysis, itself. How does one fit a stock relation and a flow relation together? I find that there are some things to be said about that, which are rather interesting. And they may perhaps point to ways by which one could possibly push on further.

There are a few special points on which I might add a few comments, points that are not treated at length in Coddington's paper, but which have been made by other authors who are quoted by him, evidently with approval.

First of all, a bit more about the fixprice–flexprice distinction, which (as will have been seen) is rather crucial. I have been accused, as for instance by Malcolm Fisher,[11] of using the distinction in different ways in different places. That is true, but I don't think there is any confusion.

If one is using it as a way of classifying models, then one can say that in the fixprice markets (of the model) the determination of prices is taken outside the model. The distinction can be used in that way without any more justification than the fact (it surely is a fact) that such models have been used. Only when one turns to the question of applicability must one go further; so one must point to actual experience to which such a model might possibly apply. The most obvious is that in which prices are fixed by some external authority; but it is clearly not that which many authors,[12] and I myself, have mainly had in mind.

Consider the case of a firm that puts out a price list (there are such!); since it costs something to put out a price list, it cannot be done every day. The price list is thus an offer to sell, at the stated prices, during some future period—let us call it a "year," though it may be much shorter than a calendar year. At the time when the price list is issued, the firm does not know what its sales during the year will be; it has had to determine its prices on the basis of information derived from past sales, and maybe from other sources. It may happen, during the year, that the sales of some product are much worse than expected; in that case it may well, again during the year, offer discounts; but it is unlikely that the price will be correspondingly reduced during the next year—it is much more likely that the product will be discontinued. It may happen, on the other hand, that sales are much larger than expected; but the firm would break faith with its customers if, during the year, it raised its price—it is much more likely that it will just keep them waiting. Nor is it at all inevitable that the price in the next list will be raised, just because the product has done well; for

[11] In his perceptive review of my *Crisis* book [1, 1976].

[12] Including Arthur Okun, whose distinction between "customer" markets and "auction" markets largely corresponds. But I prefer my terminology.

there is the alternative of increasing output (which, excepting in cases where price and marginal cost are equal, which we now know to be uncommon) will be profitable.

It is not my contention that this type of behavior is inevitable, or universal. But in a world where the future is much more uncertain than it is in the textbooks, it must surely occur, not so infrequently. Where it occurs, it will be a fair approximation to take it that prices are related to costs, rather than determined by supply and demand. But the extent to which this occurs is an empirical question, on which the theorist has no right to pronounce. What can be done, in theory, is to use a mixed fixprice–flexprice model, the extent of the two kinds of market being left to be judged, in application, in each particular case.

Another matter on which I feel bound to say a word is my "suggestive but highly problematic idea" (as Coddington calls it[13]) about the "transactions demand" for money. I maintained that what has been called the transactions demand is not a voluntary demand for money; it depends "upon the pattern of transactions conducted, not upon any individual decisions, not even upon any aggregate of individual decisions. . . . It is the indirect consequence of decisions taken for quite other reasons, with no direct calculation of their monetary repercussions" [11, 1967, pp. 14–15]. Or, as I said in another place "the amount of money which is held (on the average) in this way will be a consequence of the general pattern of production (or consumption) on which the unit is engaged; it is the money requirement for the current pattern" [12, 1967, p. 40]. I would not of course deny that there is to some extent a choice of pattern, or plan, and that this choice is voluntary; what I was maintaining is that the average money holding, which is admittedly a consequence of the choice of plan, is a very indirect consequence, which cannot be easy to perceive, so that as an element affecting the choice, it is unlikely to be important. I would on the other hand freely admit that when there is a choice between financing the pattern by the use of one sort of money, or near-money, and another, the decision between them is fully voluntary. What I said was meant to be read in terms of means of payment in general.

Perhaps I should also say something about the "floor to the rate of interest," which was so important in Keynes's own thinking, and which figured a good deal in my earlier writings on Keynes. One can see why it appeared, in the thirties, to be such an important matter; in the inflationary conditions to which we have now become accustomed, it is irrelevant. I stated what I had come to think about it, theoretically, in the third of my "Two Triads" papers [12],[14] in 1967. I have in no way changed my mind on this matter since that date.

[13] P. 972 of this Journal.

[14] It may be worth mentioning that this third of the "Two Triads" papers was written quite separately from the others. I now think that it is much better than the others.

REFERENCES

1. FISHER, MALCOLM. "Professor Hicks and the Keynesians," *Economica*, August 1976, *43*(171), pp. 305–14.
2. HICKS, JOHN. "A Suggestion for Simplifying the Theory of Money," *Economica, N.S.*, Feb. 1935, *2*, pp. 1–19; reprinted in *Critical Essays* [11, 1967], pp. 61–82.
3. ———. "Wages and Interest: The Dynamic Problem," *Econ. J.*, Sept. 1935, *45*, pp. 456–68; reprinted in the *Theory of Wages*. Second edition. New York: St. Martin's Press, 1963, pp. 268–85.
4. ———. "Mr. Keynes' Theory of Em-

ployment," *Econ. J.*, June 1936, *46*(182), pp. 238–53.

5. ______. *Value and capital.* Oxford: Oxford University Press, Clarendon Press, 1939.
6. ______. "The Monetary Theory of D. H. Robertson," *Economica, N.S.*, Feb. 1942, *9*, pp. 53–57.
7. ______. *A contribution to the theory of the trade cycle.* Oxford: Oxford University Press, Clarendon Press, 1950.
8. ______. "Methods of Dynamic Analysis," in *Twenty-five economic essays (in English, German and Scandinavian language) in honour of Erik Lindahl.* Stockholm: Ekonomisk Tidskrift, 1956, pp. 139–51.
9. ______. "A Rehabilitation of 'Classical' Economics? [Review of Patinkin's *Money, Interest and Prices*]," *Econ. J.*, June 1957, *67*, pp. 278–89.
10. ______. *Capital and growth.* Oxford: Oxford University Press, 1965.
11. ______. *Critical essays in monetary theory.* Oxford: Oxford University Press, Clarendon Press, 1967.
12. ______. "The Two Triads, Lecture III," in *Critical essays* [11, 1967], pp. 38–60.
13. ______. "The 'Classics' Again," in *Critical essays* [11, 1967]. pp. 143–54.
14. ______. "Monetary Theory and History—An Attempt at Perspective," in *Critical essays* [11, 1967], pp. 155–73.
15. ______. *The crisis in Keynesian economics.* Oxford: Blackwell, 1974.
16. ______. *Economic perspectives: Further essays on money and growth.* Oxford: Oxford University Press, Clarendon Press, 1977.
17. ______. *Causality in economics.* New York: Basic Books, 1979, forthcoming.
18. KEYNES, JOHN MAYNARD. *The general theory of employment, interest and money.* London: Macmillan, 1936.

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On Latsis's *Method and Appraisal in Economics:* A Review Essay*

By LIONEL ROBBINS

I

In September 1974 there took place, at Nafplion in Greece, a gratifyingly small but distinguished conference of a somewhat unusual nature. Its object was to examine the general grounds of appraisal of the status and the progress of scientific theories, particularly with reference to the views of the late Imre Lakatos embodied in his conception of the Methodology of Scientific Research Programmes as developed in his notable contribution to the Symposium *Criticism and the Growth of Knowledge,* edited by himself and Alan Musgrave [5, 1970]. But instead of ascending into the stratosphere of pure speculation, the organizers of the conference decided to focus their principal attention on two fields, the history of physical science and economics respectively; and by concentrating on theories and progress in these subjects to bring greater concreteness to the discussion of the general problem. This volume, splendidly edited by one of the principal organizers and contributors to the conference, Dr. Spiro Latsis, embodies the papers contributed and evoked by the sessions devoted to economics. A companion volume, *Method and Appraisal in the Physical Sciences,* edited by Colin Howson [2, 1976], does the same thing for the other sessions. Together they are records of an occasion that I personally found more stimulating than any other conference I have ever attended.

The titles of both these books, although generally felicitous, are perhaps apt to give the impression that their content matter is concerned indifferently with the normative and the positive; and indeed the occasional appearance of versions of the more formal statements of the requirements of the Lakatos Programme may convey the same thought—historically the word methodology has been itself somewhat ambiguous in this respect. It is therefore a welcome circumstance that, in his Preface, Dr. Latsis should explicitly repudiate this interpretation and make it clear that, according to Lakatos, "the proper domain of philosophy of science is the appraisal of past achievements and *not* the rendering of heuristic advice" (p. viii). Appraisal may indeed involve examination of method. But it does not prescribe the mode of the evolution of thought.

The contributions to this symposium cover a wide field. Dr. Latsis introduces the subject and illustrates his theme by

* *Method and appraisal in economics.* Edited by Spiro J. Latsis. Cambridge; New York and Melbourne: Cambridge University Press, 1976. Pp. viii, 229. $17.50.

an illuminatory critique of the present state of the theory of the firm. Professor A. W. Coats and Professor Herbert Simon deal with aspects of the connection between Economics and Psychology. Professors Axel Leijonhufvud and Neil de Marchi deal, respectively, with Keynes and the Leontief paradox, and Professors Mark Blaug, T. W. Hutchison, and Sir John Hicks discuss wider aspects of the congruence of the criteria proposed and the history of economic thought. Clearly it would be impossible, in an article of this length, to survey in detail all the different aspects of these various contributions. I hope, therefore, that it will not be thought inappropriate if in the course of this review I mainly present my own views on the general problems involved with due reference to relevant points made by the distinguished authors.

II

The subject is Economics. Its generalizations cover any aspect of behavior that is conditioned by the existence of scarcity—scarcity of time, of productive powers, of goods and services of all types. So far as I know, the first approach to this conception occurs in Hume's discussion of property in his *Treatise of Human Nature* [3, 1882, pp. 261–62] and in various connections it crops up again and again in one form or another in subsequent literature—the idea that it only emerges in my youthful writing is erroneous. Whenever the objectives of conduct are various and the means of achieving them are limited, it is not difficult to see that it has a comprehensive application. Where there is no scarcity of the various kinds indicated, there is no behavior that has an economic aspect.

It has been objected that this conception is either too wide or too narrow: on the one hand there is a vast field of behavior influenced in one way or another by the fact of scarcity, which is of no particular interest; on the other hand there are many influences outside the spheres of markets and exchange, which economists should take into account. So far as width is concerned, it is quite true that much conduct having an economic aspect is extra-marginal as regards systematic study. But this is true of most other aspects of reality that are the subject of systematic investigations. In natural science, equally with social studies, we concentrate on problems of interpretation rather than examine just any phenomena that happen to strike our attention. As regards the accusation of narrowness, I suspect this rests on misapprehension due perhaps to undue preoccupation with the theory of exchange. In fact, explanation of the influence of scarcity extends far beyond the immediate incidence of catallactics: it covers questions of incentive, institutions, and indeed much of the legal framework of society, not to mention matters of indiscriminate, as well as of discriminate, benefit.

This brings me to the question of the relation of Economics to Psychology. Professor Coats gives an interesting account of the abortive attack by certain American economists, chiefly at the turn of the century, on mainstream Economics on the ground that it took no account of the published views of psychologists or indeed of psychological factors outside narrow conceptions of pecuniary interest—though whether this attack should be dignified as a methodological research program in the Lakatos sense is perhaps a matter on which opinions may vary. The fact is, of course, that, from a very early stage, psychological interpretations and elements have played a part in economic generalizations. The first part of Adam Smith's famous chapter on differences in wages and profits in different employments where he deals with what he would call "natural" influences [12, 1976, ch. 10], makes it abundantly plain that tendencies

to equilibrium in these connections are tendencies *not* to equality of money returns, but rather to equality of net advantages, including anticipated social esteem, subjective reactions to alternative occupations, and various attitudes to uncertainty. If one had to ask which part of Smith's detailed analytical system had survived into modern treatments, this would have strong claims to high priority.

Let me dwell a little on the position of uncertainty in economic analysis for, without calling into criticism Professor Simon's very interesting reports concerning the tests he has made of various kinds of reaction to uncertainty, I confess I am more than a little puzzled by his suggestion that what he calls substantive rationality has dominated the field of speculation up to a recent date. In this respect again, I would invoke the *Wealth of Nations* with its piquant account of the effect on recruitment to certain occupations of "the overweening conceit which the greater part of men have of their own abilities . . . [and] their absurd presumption in their own good fortune" [12, 1976, p. 124]. In this connection I recall also that the third approximation in Irving Fisher's *Rate of Interest* [1, 1907], one of the greatest analytical works of the first half of this century, is specifically directed to the effects of comparative ignorance on the upshot of investment. Nor can I forget the profound discussion of the nature and effects of uncertainty in Frank Knight's brilliant *Risk, Uncertainty and Profit* [4, 1921]. I am naturally fascinated by the experiments in computational method on reaction to uncertainty by Professor Simon and his associates, but I should doubt if the results had more than limited *spatial and temporal validity* as illustrations of assumptions that have been built into general economic analysis for quite a long time. Professor Simon would not, I am sure, contend that they relate to the reactions of, say, present-day Eskimos and Melanesians, or Americans of the seventeenth and twentieth century—let alone the twenty-first century when it arrives.

Still crossing the t's and dotting the i's of the psychological elements in economic analysis, I cannot resist a slight gloss on Dr. Latsis's suggestion that my own outlook is confined to the assumption of rational conduct. This must certainly be entirely due to expository failure on my part: my early writing on such subjects offered many very legitimate targets. But if "rational action" means, as I think it should mean, *consistent* action, in the sense that, if one prefers A to B and B to C, then it is consistent to prefer A to C and inconsistent to prefer the contrary, I certainly do not hold that all action that is not vegetative must be regarded as rational in the sense that mutually contradictory preferences and policies on the part of single individuals or collections of individuals are ruled out. I think a good deal of the application of economics to practical policy is devoted to elucidation of just such situations. The fact that for certain purposes of pure analysis—a Walrasian equilibrium for instance—it is useful to assume rationality in the sense of consistency, certainly does not oblige us, at least from my outlook on our subject matter, to rule out all situations involving scarcity that do not conform to this assumption.

III

I now come to the essential similarities and differences between physical and economic sciences.

As regards the logical status of the respective propositions concerned, there can surely be no dispute in either case to Hume's distinction between *ought* and *is*. I certainly believe that in what I call Political Economy as distinct from pure Economics (*i.e.*, the application to public policy of economic generalizations claiming scientific status)[1] there is, or should

[1] See My *Political Economy: Past and Present*, pages 1–3, for an explicit justification of this terminology [10, 1976].

be, much normative appeal to matters of ethics or social philosophy involving judgements of value rather than judgements of fact. But on the positive analysis of the implications for behavior of the fact of scarcity—Economics—I see no reason to recognize any difference between such generalizations and the generalizations of Physics or of Biology.

Nor do I claim that, as regards appraisal, there is an ultimate difference. Generalizations about physical or economic phenomena are essentially conjectures, capable of deductive development, but, while exposed to refutation by appropriate testing, incapable of final and definite proof. In this respect I am a convinced Popperean. I do not regard Lakatos's Methodology of Scientific Research Programmes as, in any important respect, contradictory to Popper's main contention. Indeed I would regard his prescriptions, his "hard core" propositions, his heuristic postulates, his "protective belt," and his insistence that broad programs of research should not be deterred by incidental failure as a distinguished spelling out of implications of the main body of Popper's contribution. I confess that while recognizing, in appropriate places, differences in stylistic emphasis in Popper's exposition, I do not regard these differences as constituting essential divergencies of outlook justifying the attribution to the author of inconsistent views within the central contribution. I should certainly regard it as a total misapprehension—which I am sure Lakatos would not have wished to propagate—to regard Popper as a *naive* falsificationist. Therefore personally I regard the broad conceptions of the *Logic of Scientific Discovery* [9, 1959] as generally applicable, whatever particular scientific discipline we practice.

This is not to say that, in my judgement, there are no differences, arising from the nature of the subject matter, between the various Physical Sciences on the one hand and Economics on the other. The need for the so-called "hard core" of the assumptions of economic analysis to be buttressed by so many auxilary assumptions, explicit or implicit, if any development that is not ultimately banal is to be expected, seems to me to be an obvious difference. Beyond that, the possibilities of testing are so hedged about with both practical and intellectual difficulties as to constitute almost a difference in kind. The practical difficulties are obvious; the requirement of *ceteris paribus,* despite all sorts of ingenious techniques, is very exacting. But the intellectual difficulties are even more formidable. There is not only the continual change in the pattern of tastes and obstacles, presenting problems comparable to those that would exist in Natural Science if every time a relevant observation were made, the table of atomic weights had to be recalculated; there is also the further complication of the learning subject—Newton's apple did not change its habit because its behavior had been made the subject of generalized description, as a stockbroker might if quantitative laws of the response of fixed interest securities to various changes had been discovered. We should never forget that economic reactions, as distinct from physical reactions, are mediated by the existence of human minds capable of weighing alternatives and learning from experience, as Professor Machlup has so powerfully argued in his "If Matter Could Talk" [6, 1969, ch. 12]. I am definitely not saying that these complications inhibit *any* useful speculation about economic tendencies and relationships: on the contrary one cannot look at contemporary economic policy in most areas without realizing how useful a modest knowledge of Economics could be. But they certainly impose limitations on ambitions concerning precision and prediction outside fairly formal deductions from pretty obvious assumptions. For example, the proposition that the volume of spending cannot greatly exceed the volume of production

without affecting the value of money may be regarded as helpful; whereas the statement that a given increase in such an excess will affect long-term interest rates by a definite percentage is highly dubious if not consciously fraudulent. No economist would admit that the more generally accepted propositions of his subject are *no use* in understanding economic relationships and movements. But at this stage of my life I am fairly clear that his claims should be limited, especially in the field of quantitative prediction.

IV

But now comes the grand question: how does the history of the subject stand up to our methods of appraisal?

I do not think that this question is as easy to answer as the parallel question in regard to Physical Science. As Dr. Latsis's discussion of the theory of the firm brilliantly shows, it is sometimes possible to isolate—or partly isolate—the evolution of particular theories and subject them to this kind of scrutiny. But, in the main, the interrelations of the elements in general economic systems are so close that detached appraisal has its limitations. I suspect that reservations of the kind I have in mind underlie Professor Blaug's masterly paper. It is certainly easier, at any rate initially, to adopt Sir John Hicks's method of a bird's eye survey of the real, or alleged, revolutions in the main body of theory: and this is how I intend to proceed.

We may begin with the Smithean system. The main object of the *Wealth of Nations,* in so far as it presented positive propositions rather than prescription, was to show how the division of labor was regulated by the extent and incentives of the market, and how the growth or decline of such a system depended on the degree of the division of labor and the accumulation or decumulation of capital. (I leave undiscussed Sir John's provocative revival of the suggestion that Smith's synthesis was "taken over" from the Physiocrats—if there is question of the main influences on the central Smithean system, I personally should be inclined to name Cantillon rather than Quesnay and his disciples). I hope that it would be agreed that, in the general setting in which I have posed the appearance of the contents, it set the background for most of the questions that most economists have been discussing ever since.

I am not inclined to regard the contributions of Ricardo, important as they may be, either positively or negatively, in provoking further thought as constituting a "revolution" as regards the Smithean system *in general.* I would not wish to underestimate the development of *pure analysis,* in one sense of the word, which takes its rise from Ricardo's *Principles* [11, 1817]. But, given the path-breaking positions of Smith as regards the functions of markets and accumulation, I see Ricardo's propositions chiefly as attempted reformations of particular positions concerning value and distribution. I do not think that, when John Stuart Mill stated that he was attempting in his *Principles* a work "similar in its object and general conception to that of Adam Smith," he intended to convey the impression of a revolution, even though he went on to say that "the *Wealth of Nations* is in many parts obsolete and, in all imperfect" [8, 1848]. While there had been notable additions, conspicuously in the theory of international trade, there remained some of Smith's errors and many of his excellences in the development of nineteenth century Classical Economics.

Matters are different in regard to the so-called Marginal Revolution, whether one regards it as starting with the unjustly neglected anticipators of utility theory (D. H. Lloyd, Jules Dupuit, and Herman H. Gossen), or conspicuously with the developers of that line of thought (W. S. Jevons,

Karl Menger, and Léon Walras). I am inclined to agree that the importance of minutiae of the alternative forms of approach to the psychological element underlying demand, although intellectually highly interesting, may have been overdone. But the fundamental change of emphasis regarding the analytical status of demand, not only for goods of the first order but for factor services and for the valuation of specific factors and indeed for free capital, eventually gave the substance of the theory of value and distribution a content radically different in important respects from the Ricardian developments of the Smithean system. Marginal rates of substitution, marginal productivity, marginal time preference, marginal rate of return over cost—these are conceptions, arising for the most part, though not entirely—think of J. H. von Thünen and A. A. Cournot—from the work of the fifty years after 1871, which are important ingredients in any present attempt to understand economic phenomena. And despite anticipations and various origins, it is not lacking in perspective to regard them as products of the Marginal Revolution. There are indeed elements of continuity with earlier analysis, as Marshall, rightly, never ceased to urge; but the look of the thing is different.

In all such developments the prime elements of the theoretical assumptions involved, though fundamentally important, are not such as to demand much complicated testing. I have in mind questions such as, other things being equal, are you capable of ranking anticipated satisfactions in a descending order of magnitude? Do you value such satisfactions according to their availability in time? Is it possible for you to gauge the degree to which the uses of different means of production are substitutable for your purposes? These are questions that should be asked and their meanings examined. But the tests involved are pretty simple. It is the complications that arise when such conceptions are amalgamated and applied to particular problems that are difficult to disentangle. And, as we have seen, any attempt to invest them with *permanent*, as distinct from momentary, quantitative values involves difficulties of a completely different order. Even so I am inclined to agree with Professor Hutchison that generally there has been insufficient testing in Economics. As regards the elementary conceptions, I imagine that diminishing returns might set in early to very protracted examination—and sometimes does. In more complicated constructions there is often an amazing naiveté as regards the availability of the specific facts essential for testing; and there are many parts of our subject, the areas that general theory shows to be indeterminate, where I am disposed to think that frank declarations of ignorance within limits may be a valuable supplement to any presumptions based on history or psychology, useful though these may be in particular instances.

There is one aspect of the original Smithean position that deserves special notice in this connection, both intrinsically and in regard to subsequent developments; namely his assumptions regarding aggregate demand and money and banking. His assertion that "what is annually saved is as regularly consumed as what is annually spent, and nearly in the same time too; but it is consumed by a different set of people" more or less assumed, in the absence of misbehavior by the states, or perhaps by banks, a tendency to overall equilibrium of supply and demand: and in this sense it was developed, at least by James Mill and Ricardo and (more doubtfully) by J. B. Say, on the last of whom nearly all the subsequent blame has somewhat unjustly been laid. Although charitable interpretations may be put on the underlying intellectual intentions in this connection, the general assumption was obviously not in accordance with the facts

of a monetary economy: and despite Malthus and his followers, it was not until J. S. Mill's important essay on the *Influence of Consumption on Production* that this particular matter began to be treated in a manner more consistent with experience [7, 1844]. Meanwhile there were taking place in the field of finance, developments on the side of money and banking, themselves giving rise to new problems, at first not properly conceived, at least by Smith; and the more or less regular ups and downs of trade, typical of the years between 1815 and 1914, gradually attracted more systematic attention. What with these and the acute problems of inflation and deflation of the present century, the treatment of overall equilibrium and disequilibrium, which is almost taken for granted in the Smithean system, has assumed an entirely different status in the theoretical perspective of today. It is perhaps also to be noted in this connection that, in spite of the absence of concensus, there has been here at least a good deal of recourse to statistical testing of one kind or another.

Whether all this is to be called a revolution or not is perhaps a matter of words. I personally doubt if having regard to the variety of the geographical sources, the French, the German, and the English speaking worlds, and the times at which the various contributions appeared, including the profound insights of Henry Thornton at the beginning of the nineteenth century, this appellation is very suitable. I certainly think that Keynes's influence on public opinion and on policy *was* revolutionary; but, as the mists of controversy disperse, I doubt if the degree of discontinuity between his important theoretical contributions and those of, say, the great Scandanavians, not to mention Ralph G. Hawtrey and Dennis H. Robertson in this country and Milton Friedman and others in the United States, will be regarded as having the status of isolated innovation as is sometimes supposed. I am not clear that Professor Leijonhufvud would altogether agree about this; and I would freely admit that the developments of the last sixty years are perhaps still too close for us to feel sure that we give them their true place in the perspective.

V

Arriving at last at the ultimate question of the symposium—the use and validity of the Lakatos criteria for appraisal of the development of Economics—I think it is clear, as is demonstrated by the distinguished contributions of Dr. Latsis and Professor de Marchi, that there are episodes in the evolution of particular theories that can be very usefully analyzed on these lines. It is possible to think of other cases where this verdict might also apply—other episodes in the history of the theory of international trade, for example, and Irving Fisher's speculations on the theory of the relation between real and nominal rates of interest. And where this can be done without the appearance of forcing, it is obviously to be welcomed.

I confess however to some doubts about the application of this technique to the developments of branches of more general theory. This is not to abandon the ultimate criteria of logical consistency and the desirability of sophisticated and realistic tests. But it is to suggest that accounts of the evolution of such broad fields as, let us say, the theories of value and distribution, not to say general growth, if appraised on the formal lines of the Lakatos requirements, would involve a presentation of what actually happened, which would be difficult to recognize. Perhaps it might be good for our souls to make the attempt: I sometimes think that knowledge of the common postulates and experiences involved is apt to be taken too much for granted; and it is arguable that these should be more spelled out. But I do not think that ultimately evaluation

of the logical status and explanatory power of the constructions concerned would be greatly altered. I think that most who took part in the Nafplion conference must have recognized the closer fit of the actual history of episodes in the development of physical science to the Lakatos scheme of appraisal than, with the possible exceptions I have mentioned, would often happen especially in the history of the broader developments of economics; and, without abating very warm tribute to the usefulness of the juxtaposition of our talks, I do not think that this was altogether an accident, although perhaps it suggests deficiencies of past practice.

In recording this provisional conclusion, let me once more reiterate that, in my opinion, it does not involve the abandonment of sincere belief in the not inconsiderable intellectual status and practical usefulness of the subject. But I do recognize its limitations, doubtless springing, at least in part, from the intrinsic differences from physical science, which I was at pains to set forth earlier in this paper. Thus, for instance, I should have little reserve in predicting that measures designed to restrict the level of rents of dwelling-houses below what would have emerged in a free market would result in an alleged "shortage" of houses; and an exposition of the grounds of this opinion would perhaps be boring in its simplicity—although a surprising number of public personalities appear not to know them or, if they do know them, effectively conceal this knowledge when they discuss policy in this respect. But if I were to venture beyond such a qualitative forecast and attempted to indicate the precise magnitude of the "shortage" resulting from the same measures in population areas with different recorded reaction times in the past, I might be doing something that had some limited local usefulness in time and space; but the grounds on which I presented such conjectures would be much more complicated and vastly more likely to be wrong.

In my judgement current appreciation of the real value of economic science has been too much influenced by excessive focus on its power to *predict* to the neglect of its wider power to *explain*. This emphasis runs two dangers. From the point of view of the lay philistine, the record is not good—the claims have been much too extensive and have often been just wrong. From the professional point of view, all generalizations that have not predictive power tend to be regarded as worthless, although some of the most profound insights into the nature of the economic system—the Walrasian analysis for instance—most palpably do not possess this power.

Now admittedly some prediction, usually of a non-quantitative kind as, for instance, my above example of the analysis of the effects of rent restriction, are certainly possible and useful. And more detailed *projections*, which do not claim to be forecasts of what will actually happen—*and emphasize this to the laity*—may sometimes be helpful in enabling administrators and entrepreneurs to make up their minds in choosing between various alternatives. But the broader speculations of our subject have a wider significance than that. Doubtless they are essential background—often overlooked—both to predictions or projections. But where these are not possible or attended with such reservations as to have little practical value, they still afford, or attempt to afford, a general picture of the structure of abstract relationships arising from scarcity under various institutional frameworks—exchange, production, capitalization, money and finance, and the ways in which they may change. Thus, while we may not be able to predict what form the future may take, we may attempt description in general terms of how economic systems work or may work and put our conjectures as well as we may to the test

of present observation and past record. And such knowledge, as well as providing useful perspectives, may itself sometimes throw light on the solution of wider problems of social and political choice.

REFERENCES

1. FISHER, IRVING. *The rate of interest: Its nature, determination and relation to economic phenomena.* New York: Macmillan, 1907.
2. HOWSON, COLIN, ed. *Method and appraisal in the physical sciences: The critical background to modern science, 1800–1905.* Cambridge and New York: Cambridge University Press, 1976.
3. HUME, DAVID. *Treatise of human nature.* Vol. 2. Edited by T. H. GREEN AND T. H. GROSE. London: Longmans, Green, 1882.
4. KNIGHT, FRANK H. *Risk, uncertainty and profit.* Boston and New York: Houghton Mifflin, 1921.
5. LAKATOS, IMRE AND MUSGRAVE, ALAN, eds. *Criticism and the growth of knowledge.* Cambridge and New York: Cambridge University Press, 1970.
6. MACHLUP, FRITZ. "If Matter Could Talk," in *Philosophy, science and methodology.* Edited by SIDNEY MORGENBESSER, PATRICK SUPPES, AND MERTON WHITE. New York: St. Martin's Press, 1969, pp. 286–305.
7. MILL, JOHN STUART. "The Influence of Consumption on Production," in *Essays on some unsettled questions of political economy.* London: J. W. Parker, 1844, pp. 47–89.
8. ——— *Principles of political economy with some of their applications to social philosophy.* London: J. W. Parker; Boston: Little & Brown, 1848.
9. POPPER, KARL. *Logic of scientific discovery.* New York: Basic Books, 1959.
10. ROBBINS, LIONEL. *Political economy: Past and present. A review of leading theories of economic policy.* New York: Columbia University Press, 1976.
11. RICARDO, DAVID. *On the principles of political economy, and taxation.* London: J. Murray, 1817.
12. SMITH, ADAM. *An inquiry into the nature and causes of the wealth of nations.* 2 vols. Edited by R. H. CAMPBELL AND A. S. SKINNER. The Glasgow Edition of the Works and Correspondence of Adam Smith. London: Oxford, Clarendon Press, [1776] 1976.

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Film and the Transmission of Economic Knowledge: A Report*

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FILM is rapidly becoming in the twentieth century what the popular low-priced pamphlet was in the seventeenth century—an important and influential vehicle by which "special pleaders" (as Schumpeter called bring their case before the public. This article evaluates the economic content of a sample of a large and rapidly growing stock of viewing literature. Each film surveyed here is distributed and maintained in good repair by a highly efficient network of distributors. With the rapid diffusion of easy-to-use playback equipment both at schools and private organizations, I expect film to continue to grow in importance as one instrument by which the public stays informed about social problems and examines a range of possible solutions. In fact, a number of colleges have already included "media centers" in their libraries, and the day is rapidly approaching when all but the most traditional professors will include "assigned viewings" on their course reading lists.[1]

The films surveyed here are targeted at groups as diverse as elementary school children, church organizations, college students, community groups, and union locals. Many of these films were designed to acquaint the viewer with the "facts" about a certain issue while promoting a good image of the sponsoring organization. While these special pleaders light our screens with their points of view, it is still our responsibility as professional economists to monitor these developments before the "madmen in authority," which Keynes

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[1] The fierce battle among librarians to include audiovisualists among their ranks has been raging since 1947 (see LOUIS SHORES, *Audiovisual Librarianship: The Crusade for Media Unity (1946–1969)* [Littleton, Colo.: Libraries Unlimited, 1973], pp. 9–18). Richard Nibeck of the Association for Educational Communication and Technology (New York City) reported to me in a telephone conversation (13 May 1979) that the trend to rename libraries "Media Centers," or "Learning Resource Centers," was much more evident among elementary schools, high schools, and vocational colleges than among colleges and universities. Still, the actual presence of Media Centers within standard college and university libraries is now quite common. Any 16mm film can be transferred to videotape and stored on the shelf of a library in much the same way as a book. The library need only make available a television and videoplayback unit for the student to complete his/her "assigned viewings."

wrote about so perceptively, become the slaves of some "defunct filmmaker."

With this purpose in mind I have prepared a bibliography of (mostly) 16mm documentary film that identifies each film by title and then lists the current (American) distributor followed by the producer and the date the film was released. A second listing of the distributors and their addresses permits any interested reader to track down the film for private viewing or classroom teaching.

When preparing the bibliography I was disturbed by the lack of any standard of generally accepted citation practice having to do with film. While it is too much to expect at this stage of technological development that scholars indicate a range of "frame" numbers analogous to a range of page numbers when footnoting film, it would be useful to identify the "author-equivalent" of a film, especially when it is a documentary and a particular point of view is being expressed. A large number of the films included in this sample announce the name of a Ph.D. consultant, and since this seems to be a prerequisite for films that are marketed among educators for classroom adoption, I have listed the names of consultants, narrators, script writers, and so on.

It is not clear, however, what responsibilities are assumed by the outside consultant. Did the consultant write the script? Did the consultant read the script written by others? Did the consultant choose the visuals? To the best of my knowledge there is no established job description for consultants in the documentary film industry.[2]

I have organized my discussion according to six general subject areas that seem to be of as much interest to filmmakers as they are to economists. In each one, I shall identify the special pleaders, their overall mission, the audience to whom the film is directed, and the quality of the economic reasoning employed.

I. *The Self-Interest Axiom*

As a general rule, Hollywood has portrayed the impact wealth maximization has on human behavior as dehumanizing and corrupting [19, 56, 58, 59, 64, 91, 103, 136, 173]. The POW camp entrepreneur *King Rat* [91] is certainly not credited with improving economic life among the prisoners. Instead his commodity arbitrage operations destroy him and those around him. In *Fountainhead* [56], however, integrity-maximization turns out to be (unexpectedly?) wealth-maximizing as Ayn Rand's entrepreneur-architect hero eventually triumphs within a malevolent economic environment.

Many of the documentaries produced by National Educational Television (NET) during the sixties follow the Hollywood mold and attribute social problems to self-interest or greed [5, 12, 36, 66, 138, 155, 185].[3] In NET's *The Banks and the Poor* [12] we are told that the poor are refused loans at ordinary commercial banks so that the rich bankers can "force" them to borrow at usurous finance companies in which these same bankers own a controlling financial interest. In *The Poor Pay More* [138], NET blows the whistle on retail food chains that charge more in poor neighborhoods than they do in wealthier neighborhoods for the same grocery products.

Galbraith discovered that turn-of-the-century American capitalists were sometimes guilty about their greed and were willing to go to great lengths to hear moral justifications of profit-seeking behavior. Galbraith's lively documentary on the manners and morals of

[2] Consultant Phillip Saunders explained that although he was the only economist on the original "design team" of the film series *Trade-Offs* (discussed in *Section II*) he had a great deal of "say" about the script and the development of the story lines. Saunders had less direct involvement with the "live action scripts" and was sometimes frustrated by the "ad libbing" of actors. However, wherever the change in the agreed wordings affected the economic content of the series, Saunders could insist on reshooting even "at the expense of going over the project budget" (Private correspondence of Phillip Saunders to Laurence Moss, 12 May 1979). See also Coleman's remarks in note 5, below.

[3] In the history of documentary (that is, non-fiction film) John Grierson (1898–1972) is credited with steering documentary away from close-up portraits of primitive people and towards the depiction of impersonal social processes. In *Housing Problems* (1935) Grierson supported the demolition of slums and their replacement with government subsidized-housing—a Labour party position. The film combined slum dweller testimony with narration and became the model of later television documentary as represented in this paper by many NET productions during the 1960's (Erik Barnouw, *Documentary: A History of the Non-Fiction Film* [Oxford: Oxford University Press, 1974], pp. 85–100).

the American rich [109] appears as part of his (and executive producer Adrian Malone's) celebrated *The Age of Uncertainty* series [14, 23, 51, 94, 101, 108, 109, 143]. There are several less opinionated (and also less sensational) documentaries about business leaders [9, 45, 69] but only *Trader Vic's Used Cars* [171], distributed by Encyclopedia Britannica Educational Corporation (EBEC) and directed toward the high school viewer, outlines the outrageous business practices of a lovable used car dealer.

Filmmakers have been largely remiss about portraying the role that market institutions, common law practices, and customs play in directing self-interest toward socially desirable ends. Perhaps for this reason the Liberty Fund contracted with Ronald Coase, E. G. West, and Benjamin Rogge to produce a scholarly documentary about Adam Smith [1] for the bicentennial anniversary of the *Wealth of Nations*.[4] Although the timely references to the American Revolution sometimes "crowd out" the much needed explanation of how invisible hand mechanisms produce social good out of self-interest, this documentary is accurate and adaptable to classroom teaching.

Interestingly, Coase's own update on Adam Smith's teachings—the "Coase theorem"—is the subject of one film [142] in the amusing *People on Market Street* series [29, 31, 112, 142, 156, 164, 180] aimed at the college and mature high school audience. By amusing dramatizations that are the instructional equivalent of situation comedies, the architects of the series (which include Armen Alchian) explain how "excessive pollution," which is defined as the misallocation of resources from more highly valued to less highly valued uses, derives from either an inadequate specification of property rights or prohibitively high transaction costs that occur in crowded urban settings. The film is successful in reminding the viewer that prohibiting all pollution activity is just as undesirable as permitting too much of it.

On the negative side, institutions can also direct self-interest toward ends that are not only unintended but socially unacceptable. In *Ikiru* [73], Japanese director Akira Kurosawa captures the perverse incentive structure created within a large government bureaucracy; *Welfare* [183] by F. Wiseman documents the dehumanized recitation of the myriad eligibility requirements that occurs daily at the New York City Welfare Office; and Michael Douglas's prescient *China Syndrome* [19] shows how the incentive structures of a private electronic company and a television station combine to make it nearly impossible for individuals within those organizations to avert a nuclear catastrophe. It may be that filmmakers are moving toward a more sophisticated portrayal of self-interested behavior and how it operates under alternative institutional arrangements. The basic *problem* of economic organization raised by Adam Smith may now have scored a box office hit!

II. *Supply and Demand Analysis*

The Joint Council on Economic Education (JCEE) has been actively promoting economic education both in quality and quantity in the schools and colleges for over thirty years. Their involvement with filmmakers is well documented in our sample [6, 8, 11, 20, 35, 39, 57, 68, 70, 80, 102, 104, 123, 131, 132, 145, 169, 170, 182, 188, 196]. Their most ambitious venture to date is the series *Trade-offs* [11, 20, 35, 57, 68, 70, 80, 100, 102, 104, 169, 170, 182, 188, 196] consisting of fifteen 20-minute programs directed at children between the ages of nine and thirteen. Each film focuses on a specific idea in economics and develops that idea through a real-life episode. The concepts become increasingly more sophisticated: there is one episode acquainting the children with how acquiring human capital requires foregoing current job market earnings; and another explains how Jennifer and Julie learn about the rationing function of market prices when shirts are priced too low! Each film contains an animated segment that defines and illustrates the concept involved, and each is open-ended, inviting the teacher to lead the students in further discussion.

[4] Mrs. Linda Walker, of the Liberty Fund, said that three additional films are scheduled for release before the end of 1979. The three films constitute a series entitled *The Industrial Revolution* written by Ronald Coase, Ronald M. Hartwell, and Benjamin Rogge. Each film answers a specific question: "What distinguished the world of the Industrial Revolution from what went before?"; "Why did the Industrial Revolution occur when and where it did?"; and "What were the consequences of the Industrial Revolution for the people who lived through it?" (Telephone conversation 16 May 1979).

The case method is also used with splendid theatrical success in the UCLA-inspired *Market Street* series mentioned above in connection with the Coase theorem in *Section I.* The complete seven-film package is designed to teach basic economic principles to advanced high school and college students. In *Market Clearing Price* [112] the manager of the butcher shop "searches each day" for the "right price"—the one where "the amount that we buy just matches supply." This particular film makes a definite contribution by demonstrating how inventories operate to signal to an entire industry that an unexpected shift in demand is a general market phenomenon rather than a local neighborhood phenomenon. By focusing on the role relative prices play in informing people about their opportunities and also coordinating the plans of many individuals in the market, the series makes a positive statement about the efficiency of open-market trading when private property rights are respected and clearly defined. The series also contends that frustration results when the market process is impeded by price controls and the like.

There are a number of films that actually do develop the Marshallian graphical framework for presenting supply and demand analyses [8, 11, 97, 113]. The best of the lot is John Coleman's *Lesson 66* [8] in his *American Economy: College of the Air* series. This series was originally produced for early morning television viewing by the American Economic Association and the JCEE with the cooperation of a consortium of private corporations. Coleman targeted his lectures and materials at the high school social studies teachers and by and large was successful in his effort to communicate knowledge about the market system.[5] If I had to select one document for a time capsule that would summarize the "state-of-the-arts" in college economics *circa* 1960, it would be the excellent Coleman series [6, 8, 123, 131, 132, 145].

Richard T. Gill's *Economics and the Public Interest* series [113, 176] also contains a segment on the comparative statics of supply and demand. Gill spends a great deal of time exploring the interdependence of markets and the forces that produce general equilibrium. A 1952 film *The Law of Demand and Supply* [97] depicts a businessman father explaining the economic facts of life to his eager son. Dad draws the intersecting graphs and the boy learns where to price his proposed bicycle rental service. It is unclear whether it is dad's ethics or simply dad's ignorance of basic economic theory that prevents him from telling his monopolist-minded son to restrict supply and make even greater profits.

Economic fallacies are especially abundant in films designed to teach business to children [72, 125]. In *Mrs. Peabody's Beach* [125] a group of eager teenagers help an elderly woman ration space on her "groovy" surfing beach. These burgeoning entrepreneurs raise prices several times during the film, but always after costs have gone up. Are we back to one blade of Marshall's famous scissors?

Perhaps filmmakers slight the revenue side of the market because so many of them believe that consumers' preferences can be manipulated by advertising. Several films attack the advertising industry for its false information and basic vulgarity [17, 26, 27]. Procter and Gamble's *Is Anybody Listening?* [84] pleads that its marketing research department *does* listen to the consumer's wants and that their Pampers Baby Diapers and Pringles Potato Chips were developed under the orders of the sovereign consumer. The only film in my sample to *defend* advertising as an efficient information-generating device is the animated short by Standard Oil, *The Man Who Built a Better Mousetrap: A Discussion of the Economic Values of Advertising* [107].

[5] On the origins of the American Economy television series and its connection to the AEA's 1961 National Task Force report on economic education, see G. L. BACK AND PHILLIP SAUNDERS, "Economic Education: Aspirations and Achievements," *American Economic Review* 55 (June 1964): 403–07. The funding of the series involved approaching executive officers of large corporations, and much of this work was carried out by the Committee for Economic Development. According to Coleman, he was given free reign in developing the lectures and their content even though an advisory committee of economists and corporate executives was formed (Telephone conversation 13 May 1979). On the claim that the series was highly effective in its educational objectives, see CAMPBELL R. MCCONNELL AND JOHN R. FELTON, "A Controlled Evaluation of 'The American Economy,'" *American Economic Review* 54 (June 1964): 403–07.

On the supply side of the market, the issue of the relationship between performance and market structure is diagramatically handled with topical case illustrations by Coleman [123, 131, 132, 145]. Exxon's *Divestiture* [33] pleads that economic efficiency will not be served if the oil companies are "busted up" into smaller companies. Unfortunately, presentations using company officers to say all this is not very convincing. Hollywood has a plethora of films depicting the heroic struggle of small firms becoming absorbed by larger giants. This is an especially common story-line in the great American western, where the small farmer refuses to sell out to the large cattlerancher [103]. *The Godfather* [59] does among other things a fine job of dramatizing the instability of privately negotiated cartel agreements and the difficulties of detecting infringers by private enforcement methods.

III. *Money, Banking, and Inflation*

Children's filmmakers treat the inconveniences of barter with originality and good humor [22, 24, 54, 158, 199]. Unfortunately, when it comes to explaining the origin of money, they miss a splendid opportunity to highlight the spontaneity of the market. Instead of following Menger and Jevons, and attributing the origin of money to "invisible hand" mechanisms, the filmmakers introduce a king, "Big Daddy," or some central planner to create money by fiat.

This benevolent despot theme is often carried over into films about central banking where the Federal Reserve (FEDB) describes itself as "harmonizing the conflicting interests of a free economy . . . [helping] to maintain our nation's economic leadership throughout the world" [52]. The American Bankers Association (ABA) offers an accurate but crowded history of American banking institutions [4]. The ABA thanks President Wilson for devising a central bank arrangement to stabilize the economy by putting an end to the public's *unjustified* loss of confidence in the system. But Galbraith's entertaining *Rise and Fall of Money* [151] argues that as a historical matter, depositor mistrust of bankers was quite justified. The carnival setting used in the film, combined with the way the crafty bankers take the economy on a roller coaster ride, contributes to the visual success of Galbraith's survey of banking history.

The roller coaster metaphor also appears in the opening scenes of Whirlpool's *Cycles* [30] part of a larger series [98, 99, 150, 172] designed to promote a sound economic understanding of the economy among the general public. In *Cycles* the instability of modern economic life is attributed to government mismanagement of the economy or "overheating" as it is euphemistically called. In the high school oriented film *Money and Banking* [119] the Federal Reserve System is given high marks in its ability to use various economic "tools" to promote economic stability. The attempt to explain the "tools of monetary policy" complete with "T-accounts" is a visual failure. Much the same can be said of *The Fed, Our Central Bank* [52], which credits the Federal Reserve with successfully stabilizing the economy. It seems that we may have to wait until Milton Friedman completes his series before we hear that this claim is at least controversial![6]

The Committee for Economic Development (CED), however, links instability to government mismanagement of the economy. The 1970's inflation is explained in terms of the over-issuance of money [79]. The quantity theory is included in an animated allegory about the "lumian people" who work hard on their production machine until the flood of money brings about a reckless and "wrong" inflation. The Twentieth Century Fund's *Inflation* [77]

[6] Milton Friedman is involved with two separate series. The first consists of 15 lectures that Friedman delivered during the academic year 1977–78. The lectures and the impromptu questions and answers from the audience will be released and marketed by Harcourt Brace Jovanovich to coincide with the 1980 publication of Friedman's new book *Free to Choose*. Station WGLN Public Communications (Erie, Pennsylvania) also plans to release a Friedman film series with the same title as the book; that is, *Free to Choose*. This series consists of 10 one-hour segments in which the first half is a filmed documentary of Friedman guiding us through different parts of the world. The second half of each segment is a discussion between Friedman and a "responsible opponent" about the substantive issues raised in the film. The series includes Friedman's views on inflation, the free market, government control and regulation, education, and welfare reform. The series was financed, in part, by grants from Sarah Scaife Foundation, Reader's Digest Association, and John M. Olin Foundation.

relies on the quantity theory and concludes that more saving and less government spending is what is called for. General Telephone and Electric's (GTE) in-house employee economic education program is more guarded in their indictment of the government.[7] In their quite informative film *Inflation* [78] they hedge all bets by attributing inflation to cost-push, demand-pull, and installment-credit buying. Despite the fact that "we are all to blame," the major emphasis is placed on how money supply creation accompanies the sale of government debt to commercial banks. It is this basic fact about economic life that packs all the wallop, and GTE is to be congratulated for making it visual.

The JCEE and ABA joint-venture *Economic Stability* [39] is too crowded with details and too hard to follow to communicate anything important about monetary and fiscal policy. The central point that economic stability requires the proper mix of monetary and fiscal tools comes across to the viewers, but the jazzy shots of the water-skier riding the waves are really improper. The point of the film is supposed to be that government policy should smooth the waves, not ride them.

Organized labor's views on inflation are represented by the AFL-CIO film, *Do Higher Wages Cause Higher Prices?* [34]. Mr. Fox (the steel companies) blames the controversial steel price rise of 1956 on Mr. Owl (the unions). Wise Mr. Owl replies that the previous wage settlement was for less than the increase in worker productivity and therefore could not be the cause of the price rise. As far as organized labor is concerned, the basic cause of higher prices is corporate greed.

Aside from the Coleman and Gill lectures on the basic issues raised by the New Economics, documentaries on Keynes seem to be hard to come by. Galbraith's recollections about the advent of Keynes's teachings at Harvard and later in Washington is useful [108], but his suggestion that Keynes's teaching reached fruition in the Office of Price Administration (which Galbraith headed) during World War II is grossly misleading. The animated *Gross National Product* [65] does a poor job explaining GNP and is, frankly speaking, too noisy.

IV. *Poverty, Unions, and Wages*

After Michael Harrington announced the presence of "pockets of poverty" in the midst of an affluent American in 1962, it became popular for filmmakers to locate and document them. Edward R. Morrow's muckraking expose of the migrant farm workers [67] is a classic work. Most of the other films [5, 7, 12, 67, 138, 185] are not as successful. Consider *Hard Times in the Country* [66] in which NET claims that large wholesale giants like A&P set prices below costs to bankrupt the small farmers and buy up their land. According to NET, this happens because the conglomorates have grown too big, and in a system of free enterprise everyone is out for himself!

I find the relative lack of discussion today about agricultural poverty almost as interesting as the plethora of discussion prior to 1970. That may, of course, have something to do with the world boom in agricultural prices [198]. The Chicago Board of Trade's *Vital Force* [178] explains how commodity markets operate to help the farmer avoid the risk of price changes.

Unions take credit for not only raising the real wage of the worker but improving his dignity and self-respect. *With These Hands* [195] dramatizes the poignant struggles of the New York garment workers to unionize against the tryanny of the bosses. Other AFL-CIO distributed films [93, 161, 163] discuss various aspects of union history and culture. The AFL-CIO is a first-rate special pleader in its completely uninhibited film about the injustice it has suf-

[7] For a review of the nature and effectiveness of business-sponsored economic education programs see Towers, Perrin, Forster, and Crosby, "Business Sponsored Economic Education Programs" (Consulting report for Financial Executives Research Foundation. 3 vols. Manuscript completed 1978). On GTE's program, see *op. cit.*, 3:51–63. The general finding of the consulting team is that economic education programs are more effective the more they avoid company propaganda and address the actual concerns of the organization, such as current regulations and the general problem of inflation and its impact on company earnings. The more successful programs did not teach "the law of supply and demand, marginal return, the role of profit as a regulator, the workings of the market economy, and the difference between monetary and fiscal policies." As a general policy, the consulting team recommends that companies keep their programs "cheap" and avoid elaborately produced motion pictures because they will only raise viewers suspicions about the motives of the organization (*Ibid.*, p. 44).

fered in its fight to organize J. P. Stevens [86]. J. P. Stevens has filmed a suitable reply [85]. The recent Hollywood release *Norma Rae* [128] dramatizes the unions struggle to organize textile workers in the South.

For those craving an old fashioned marginal productivity account of labor pricing, the *Market Series* is a good place to start [180]. GTE's *Jobs: Where Do They Come From?* [87] reminds its workers that without continued capital goods investment there simply will not be enough productive work. In an interview on the "60 Minutes" program, Milton Friedman links the tremendous power of Britain's labor movement to Britain's unfortunate decision to nationalize so much of industry [194]. Finally, the Hollywood film *The Man in the White Suit* [106] treats the frustrations innovators encounter when unions try to sabotage technological change.

V. *Conservation, Energy, and Environment*

Films about conserving limited resources and managing them more efficiently are hardly in short supply [49, 140, 147, 149, 155]. Many of the best were made before 1970 and include some of the landmarks in the history of film documentaries.[8] *Dust Bowl* [36] not only presents incredible footage on the dust storms of the 1930's and the out-migration of destitute mid-West farmers, but also records the successful efforts to reclaim the land by way of sound land management principles. Hollywood's *The Grapes of Wrath* [62] captured the problem, but *Dust Bowl* presents the solution.

In *Voices* [179] the Environmental Protection Agency (EPA) employs a folksinger to rally viewers around the banner of a cleaner environment. In another film Union Carbide explains recycling of that *Ultimate Resource* [175]—garbage! The Institute of Scrap Iron and Steel shows how nearly 25 percent of steel production is made with recycled steel [157]. In *Planning the Land* [134], a private filmmaker outlines a variety of nonviolent tactics community groups can use to stop land development in their community.

Industry has, as a matter of long tradition, found film to be an effective means of explaining its operations and improving its public image.[9] In recent years, Exxon has done a remarkably responsible and artful job of explaining the present technology and notable engineering achievements of the oil industry [13, 15, 49, 130, 159, 168, 197]. In *Big Cypress* [15] Exxon documents a compromise with a Florida conservationist group about how it would drill for oil. The film makes no mention of how much extra expense was added to the project in accommodating the technology to environmental safeguards. In *Environment in Crisis* [46] EBEC presents a case study of an actual chemical plant that is unintentionally damaging local health and natural forests. If the plant closes down, then the pollution will stop, but the people in the town will lose jobs. The discussion is left open-ended, and the audience is invited to continue the discussion.

Optimism runs rampant in Exxon's *Evidence of Progress* [48]. The narrator moves from one famous disaster spot to the next showing to what extent each site has been reclaimed due to industrial clean-up efforts begun only a short time ago. The scientific description of environmental damage is explained by Learning Corporation (LC) [32, 96, 127, 137, 177]. Clearly, at some cost the environment can be "saved," but what is that cost, and who should pay it? On this important issue the filmmakers are silent.

A variety of industry-sponsored films address the concerns of specific community groups.

[8] On the efforts of Rexford Guy Tugwell and the Roosevelt administration to use film to promote the New Deal's controversial agricultural policies, see BARNOUW, *Documentary, op. cit.*, pp. 114–21.

[9] On the relationship between company interests and their sponsorship of film, see BARNOUW'S discussion in *Documentary, op. cit.*, pp. 213–28. It is not unusual for an extractive industry, such as oil exploration, to sponsor a naturalist series of films. Of great historical interest is the collaboration between the illustrious Robert Flaherty and Standard Oil of New Jersey that resulted in the 1948 *Lousiana Story*. Flaherty filmed the mysterious Louisiana bayou through the eyes of a Cajun boy. The boy befriends the oil company crew after they contain a vicious blow out that threatened the local environment (BARNOUW, *Documentary, op. cit.*, pp. 216–21). Industry-sponsored films range from subtle statements of social concern and responsibility to plant tours and economic education programs designed for employees (see note 7, above). For a description of the various types of industry-sponsored film, see MEL LONDON, *Getting Into Film* (New York: Ballantine Books, 1977), pp. 6–8.

The Natural Gas Industry explains why the trucking of liquefied gas is quite safe and essential to the public interest [154]. The EPA is concerned that hard-won environmental protection measures might be relaxed. In *An Investment to Protect* [83], the EPA urges voters to provide the necessary taxes to keep their local sewage treatment plants running. In *Mr. Edison's Dilemma* [124] a consortium of power companies plead with local regulatory boards and consumer groups that if the cost of financing capital projects is not figured into the permitted rate structure the lights may someday go off. Thankfully, the animated cartoons soften the implicit threat. The majority of energy films either describe a particular technology such as nuclear reactor-powered generators [44] or list the major alternative nonfossil fuel energy technologies on the drawing boards [43, 129]. However, they do not explain that their commercialization depends crucially on relative market prices.

In *Natural Gas: Supply and Demand* [126] the problem discussed is how a sharply rising demand for natural gas can be coordinated with a more slowly growing supply. The problem, the narrator explains, is how to increase the supply. At one telling point in the film, we are informed that the international gas market is competitive and, therefore, the price of natural gas cannot be regulated by a federal bureacracy. What happens if the price is deregulated is not discussed.

The only film in my sample that uses economic theory to criticize federal energy policy is Amoco's animated *Kingdom of Mocha* [90]. The Mochans have a problem educating "Big Daddy" (their government) about the way the market for energy supplies operates. In their economy wood is the fuel for producing consumer goods. After decades, the Mochans become dependent on international supplies of wood. They suddenly lose their source of supply because of war. Big Daddy slaps price controls on wood. When the Mochans complain that the controls are making matters worse, Big Daddy threatens them with nationalization. The Mochans explain that what is needed is expanded plant capacity and that the community will have to pay for this expansion one way or another. If nationalization occurs, taxes will increase. If prices are decontrolled, then they will just pay higher prices. In this carefully worded, cheerful allegory on contemporary government policy, we come the closest to what might be termed an attack on post-1972 U.S. energy policy. The film is important for the skillful use it makes of directing economic theory to an issue confronting private industry.

VI. *State Intervention and the Market*

The issue of taxes, what they are and why they exist, is a popular subject of children's film. In the animated film *Why We Have Taxes: The Town That Had No Policeman* [191], the young viewers are told that without compulsory taxes there would be no way to have policemen and without policemen life would be difficult to manage. In general, children's films follow children's literature and teach that it is important to obey laws and respect authority [189, 190, 192]. I was surprised to find these same simplistic approaches carried over to high school films, where the basic problems of economic and social organization might well be handled more candidly. Films with titles like *What are Taxes All About?* [184] or *Principles of Taxation* [139] do little more than summarize the forms of taxation passing over the challenging problem of why compulsion is needed at all. In *Taxes, Taxes* [165] the film begins with a shocking portrayal of the compulsory nature of state taxation, but then it trails off into an analysis of how to close "loopholes" so that the rich have to pay more taxes.

There are a number of films that treat the rise of industrialism and the nature and impact innovation has had on economic growth [69, 71, 76, 81, 107, 152, 166]. Each film contains valuable historical information. The McGraw-Hill (MGH) *United States Geography* series (for example [110, 162]) takes us around the United States and summarizes each region's principle industries. The series illustrates the enormous power film has to convey certain types of information much more quickly than the printed word. The relationship between government and the private business sector is treated by the National Association of Manufacturers (NAM) as part of its series *The American Business System* [28, 38, 53, 60, 71, 111, 166]. One film documents the increasing and diverse reach of government in modern economic life

[60]. Though each form of government intervention is described as "needed," "necessary," or "understandable," the film ends with the ominous question about how much larger government can grow without endangering free enterprise. But this observation hangs in the air without any grounding in the rest of the film. The Phillips Petroleum *American Enterprise* series [61, 81, 95, 133] cites the federal government as one contributing factor in economic growth. Apparently, every task that the government now performs can be justified. Government makes sure that "no one gets hurt" in the market, and this "brings us all together." The film concludes that it is silly to suggest that we return to small local government because America could not "survive the transition."

Whirlpool's *Laws* [98] offers an indictment of our overregulated economy and the new wave of regulation. The narrator's remark that we should not be afraid to object to bad laws that jeopardize our freedom and waste resources, is quite a strong statement for an industry-sponsored film. For those who welcome a blistering attack on the modern welfare state, there is the *Incredible Bread Machine* [75], which talks about the hypocrisy of government promises and the stark realities of the coercive means government uses in carying out these policies. The animated *Animal Farm* [10] reminds us of the tyranny of totalitarianism in all its forms. Galbraith [14] outlines the changing character and organization structure of the large corporation. In its multinational form, it is loyal to no single nation yet cares for the health and well-being of its employees, asking only fealty in return. Is the world becoming united by business relationships at the high cost of resurrecting the feudal paternalism that Adam Smith feared so much?[10]

VII. *Conclusion*

We are light years away from attributing to filmmakers the kind of impact on political life that Keynes attributed to the scribling of defunct economists. But filmmakers have demonstrated the power of their medium to transmit scientific information about the economy in an interesting and accurate manner (see, for example [1, 6, 8, 11, 14, 20, 29, 31, 57, 68, 78, 79, 80, 90, 100, 102, 112, 113, 123, 131, 132, 142, 145, 151, 156, 164, 169, 170, 176, 180, 188, 196]). They have also developed public relations techniques to explain the operation of their industry and/or depict their sponsoring organizations in a favorable light [52, 82, 84, 89, 93, 124, 129, 130, 147, 148, 154, 157, 161, 163, 168, 195, 197, 198]. The next step would be a careful combination of the two, placing economic theory at the service of special pleaders. At least one film in our sample actually comes close to achieving this synthesis [90]. Perhaps this will require the economics profession (or some other equally-qualified, self-selected governing body) to monitor films and rate them "G" for "general audience" and "PG" for "Ph.D. guidance needed."

I welcome the development of advocacy film. It will promote the dissemination of basic patterns of economic reasoning among the public. As long as the marketplace for film remains competitive with different pleaders hawking their particular points of view, economic reasoning will play an increasingly important role in the development of advocacy film. For this reason, the celluloid future of economic analysis appears to be a bright one. Economists have innovated with graphical presentations throughout this century, and there is every reason to believe that they will investigate the visual potential of film as well. Regardless of the motivations of the sponsor, the techniques will be developed to aid in the transmission of economic knowledge. The day may soon be at hand when even the most technical policy report is incomplete without a videotape appendix!

[10] LAURENCE S. MOSS. "Power and Value Relationships in the *Wealth of Nations,*" in GERALD P. O'DRISCOLL, JR., ed. *Adam Smith and Modern Political Economy* (Ames, Iowa: Iowa State University Press, 1979), pp. 85–101.

SELECTED LIST OF FILMS*

1. *Adam Smith.* MTPS. Prod. by Liberty Fund. Writ. by RONALD COASE, E. G. WEST, AND BENJAMIN ROGGE. 1976.
2. *Alternative Energy Sources.* IU. Prod. by Educational Broadcasting with grant from Ford Foundation. 1972.

* Names and addresses of film distributors abbreviated in this Selected List may be found at the end of the list.

3. *An Alternative: The Benefits of a Selective Herbicide.* MTPS for Dow Chemical. Prod. by Audiovisual. n.d.
4. *An American Account: The Story of Banking.* FEDB. Prod. by American Bankers Assoc. (ABA). Consult. CHARLES HAYWOOD. 1975.
5. *America's Crises: The Troubled Cities.* IU. Prod. by National Educational Television (NET). 1965.
6. *American Economy: An Overview of the American Economy* in *The American Economy: College of the Air: Lesson 59.* BU. Prod. by American Economic Association (AEA) and Joint Council on Economic Education (JCEE). Writ. and pres. by JOHN COLEMAN. 1962.
7. *Anatomy of Welfare.* MGH. Prod. by ABC News. Narr. by ERNEST PRENDRELL. 1971.
8. *And Then Come Market Prices* in *The American Economy: College of the Air: Lesson 66.* BU. Prod. by AEA and JCEE. Writ. and pres. by JOHN COLEMAN. 1962.
9. *Andrew Carnegie: The Gospel of Wealth.* LC. Prod. by Robert Saudek Productions. Consult. JOHN MORTON BLUM. 1973.
10. *Animal Farm.* PF. Prod. by John Halas. 1955.
11. *At What Price? (Market Clearing Prices)* in *Trade-Offs* series. AIT. Prod. by JCEE, Canadian Foundation for Economic Education (CFEE), and AIT. Consult. PHILLIP SAUNDERS. 1979.
12. *Banks and the Poor.* IU. Prod. by NET. 1970.
13. *Beyond the Shores.* MTPS for Exxon. Prod. by Blondheim Productions. 1978.
14. *The Big Corporation* in *The Age of Uncertainty* series. FI. Prod. by Andrian Malone for British Broadcasting Company (BBC). Writ. and narr. by JOHN K. GALBRAITH. 1976.
15. *Big Cypress: Partnership with Nature.* MTPS for Exxon. Prod. by MFC Film Productions. 1977.
16. *Building a Harbour.* AIMS. Prod. by Charles Cahill and Assoc. 1972.
17. *Buy, Buy.* CF. Prod. Donald MacDonald. 1973.
18. *Capitalism and Communism.* BFA. 1976.
19. *China Syndrome.* CF. Prod. by Michael Douglas. 1979.
20. *Choice (Opportunity Cost)* in *Trade-Off* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
21. *Choosing What to Make.* EBEC. Consult. FREDERICK LIGHTHALL. n.d.
22. *Coins of the World: History in Metal.* CENTRO. Consult. JAMES C. SEAVER. 1976.
23. *The Colonial Idea* in *Age of Uncertainty.* FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1976.
24. *Common Cents.* AIT. Prod. by KETC-TV with Calvin K. Kazajian Economics Foundation. 1976.
25. *The Constitution and the Labor Unions* in *Decision* in *The Court in Action* series. IU. Prod. by CMC Productions. 1959.
26. *Consumer Economics and You.* EBEC. Prod. by Illinois Council on Economic Education with Michael A. MacDowell. 1976.
27. *Consumer Power: Advertising.* BFA. 1971.
28. *The Corporation: American Business System.* IU. Prod. by NET with grant from National Association of Manufacturers (NAM). 1962.
29. *Cost* in *The People on Market Street* series. (Unit 2). WDEMCO. Prod. by Foundation for Research in Economics and Education (FREE). Consult. ARMEN ALCHIAN AND DOUGLASS SHETLER. 1977.
30. *Cycles.* BIE. for Whirlpool Corp. Prod. by James C. Lilly w/BIE. Consult. CHARLES VENUS. 1975.
31. *Demand* in *The People on Market Street* series (Unit 3). WDEMCO. Prod. by FREE. Consult. ARMEN ALCHIAN AND DOUGLAS SHETLER. 1977.
32. *Deterioration of Water.* LC. Consult. RAY LINSLEY. 1972.
33. *Divestiture.* Exxon, in-house only. 1977.
34. *Do Higher Wages Cause Higher Prices?* AFLCIO. Prod. by Dept. of Education of AFL-CIO. 1957.
35. *Does it Pay?* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
36. *Dust Bowl.* MGH. Prod. by CBS News (Walter Cronkite). 1960.
37. *Economic Geography: Comparing Two Nations.* BFA. Prod. by Wayne Mitchell. 1971.
38. *Economic Growth* in *American Business System* series. IU. Prod. by NET and NAM. 1962.
39. *Economic Stability: The Questions and Answers.* CENTRO. Prod. by JCEE and ABA. 1971.
40. *Edge of Abundance.* IU. Prod. by NET. 1965.
41. *Energy in Perspective.* MTPS for Exxon. Prod. by Balfour Films for Exxon. n.d.
42. *Energy: Less is More.* CF. 1973.
43. *Energy: New Sources.* CF. Consult. CALIFORNIA INSTITUTE OF TECHNOLOGY. 1974.
44. *Energy: The Nuclear Alternative.* CF. 1974.
45. *Entrepreneur in the Search for America.* IU. Prod. by NET. 1962.
46. *Environment in Crisis: Controversy Over Industrial Pollution.* EBEC. 1973.
47. *EROS: Response to a Changing World.* MTPS for U.S. Dept. of Interior: Geographical Survey. Prod. by Film Group. 1975.

48. *Evidence of Progress.* MTPS for Exxon. Prod. by Crawley Films. 1976.
49. *Faces of Energy.* MTPS for Exxon. Prod. by Don Guy Productions. 1976.
50. *The Farmer in a Changing America* in *Rise of Industrial America* series. EBEC. Consult. JAMES P. SHENTON. 1973.
51. *The Fatal Competition* in *The Age of Uncertainty* series. FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1977.
52. *The Fed Our Central Bank.* FEDB. Prod. by A. F. Thompson, with Board of Governors of Federal Reserve Banking System. 1978.
53. *Financial Management* in *American Business System.* IU. Prod. by NET and NAM. 1962.
54. *The Fisherman Who Needed a Knife.* LC. Prod. by Stephen Bosustow. 1970.
55. *The Food Crisis.* IU. Prod. by NET. 1966.
56. *Fountainhead.* UA. Prod. by Warner Bros. 1949.
57. *Give and Take (Trade-offs Among Goals)* in *Trade-offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
58. *Gone With the Wind.* MGM. 1939.
59. *The Godfather.* Parts I and II. PF. Prod. by Francis Ford Coppola. 1972 and 1974.
60. *Government and the Market* in *American Business System.* IU. Prod. by NET and NAM. 1962.
61. *Government in American Enterprise: A Series of Views on American Economic History.* MTPS for Phillips Petroleum. Consult. RICHARD A. EASTERLIN, ROBERT E. GALLMAN, RALPH GRAY, *et al.* 1976.
62. *The Grapes of Wrath.* TWF. Prod. by John Ford. 1940.
63. *The Great Search.* ASF for Boston Edison. Prod. by Walt Disney Productions. 1972.
64. *Greed.* MGM. Based on Frank Norris's *McTeague.* 1927.
65. *Gross National Product.* BU. Prod. by Twentieth Century Fund. Consult. PAUL A. SAMUELSON. 1971.
66. *Hard Times in the Country.* IU. Prod. by Jack Willis for NET. 1970.
67. *Harvest of Shame.* MGH. Prod. by CBS Reports (Edward R. Morrow). 1960.
68. *Helping Out (Market Intervention: Increasing Indirect Benefits)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILIP SAUNDERS. 1979.
69. *Henry Ford* in *Biography Series.* MGH. Prod. by Wolper Productions. 1962.
70. *How Could That Happen? (Interdependence of Market Prices)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
71. *How It Evolved* in *American Business System.* IU. NET and NAM. 1962.
72. *If the Fergi Fits, Wear It!* WDEMCO. Prod. for Exxon by Walt Disney Productions. 1975.
73. *Ikiru.* ADF. Prod. By Akira Kurosawa. 1952.
74. *I'm All Right Jack.* CP. Prod. by John Boulting. 1960.
75. *Incredible Bread Machine.* WR.1975.
76. *The Industrial Revolution Beginnings in the United Stat es* in *The Rise of Industrial America* series. EBEC. Consult. JAMES SHENTON. 1968.
77. *Inflation.* BPL. Prod. by Encyclopedia Britannica and Twentieth Century Fund. Consult. J. FREDERICK DEWHURST AND SIMON N. WHITNEY. 1953.
78. *Inflation.* GTE. 1976.
79. *Inflation.* MTPS for Committee on Economic Development (CED). Prod. by Perpetual Motion Pictures. 1970.
80. *Innocent Bystanders (Market Intervention: Reducing Indirect Costs)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
81. *Innovation in American Enterprise: A Series of Views on American Economic History.* MTPS for Phillips Petroleum. Consult. RICHARD A. EASTERLIN, ROBERT E. GALLMAN, RALPH GRAY, *et al.* 1976.
82. *In Reserve: Ninth District Federal Reserve Bank.* MTPS for FED. Prod. by Filmedia. 1975.
83. *An Investment to Protect.* MTPS for U.S. Environmental Protection Agency (EPA). Prod. by Blackside. 1977.
84. *Is Anybody Listening?* MTPS for Procter & Gamble. Prod. by Film Counselors & Amberly Productions. 1976.
85. *The Issue . . . Freedom of Choice.* J. P. Stevens. 1978.
86. *J. P. Stevens.* AFLCIO. Prod. by Harold Mayer for National Citizens Committee for Justice for J. P. Stevens Workers. 1977.
87. *Jobs: Where Do They Come From?* GTE. 1976.
88. *Karl Marx: The Massive Dissent* in *The Age of Uncertainty.* FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1976.
89. *The Keys to the Treasury.* BPL. Prod. by U.S. Treasury Department. n.d.
90. *Kingdom of Mocha.* MTPS. Amoco Oil with Tom Thomas Organization and Church Bird Studios. 1976.
91. *King Rat.* WF. Prod. by James Wolf. 1965.
92. *The Labor Movement: Beginnings and Growth in America.* CORF. Consult. F. R. DULLES. n.d.
93. *Lamps in the Workplace.* AFLCIO. Prod. by Eli Productions for Wage & Hour Division of U.S. Department of Labor. 1973.

94. *Land and the People* in *The Age of Uncertainty.* FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1977.
95. *Land in American Enterprise: A Series of Views on American Economic History.* MTPS for Phillips Petroleum. Consult. RICHARD A. EASTERLIN, ROBERT E. GALLMAN, RALPH GRAY, *et al.* 1976.
96. *Land Use and Misuse.* LC. Consult. REID BRYSON. 1973.
97. *The Law of Demand and Supply.* BU. Prod. by CORF. 1952.
98. *Laws.* BIE for Whirlpool. Prod. by James C. Lilly w/BIE. Consult. CHARLES VENUS. 1977.
99. *Lead-Time.* BIE for Whirlpool. Prod. by James C. Lilly w/BIE. Consult. CHARLES VENUS. 1975.
100. *Learning and Earning (Investment in Human Capital)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
101. *Lenin and the Great Ungluing* in *Age of Uncertainty.* FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1976.
102. *Less and More (Increasing Productivity)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
103. *McCabe and Mrs. Miller.* WB. Prod. by Robert Altman. 1971.
104. *Malcolm Decides (Personal Decision-Making)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
105. *Making the Things We Need: Division of Labor.* EBEC. Prod. by William Kay. 1969.
106. *Man in the White Suit.* LC. Prod. by Michael Balcon. 1952.
107. *The Man Who Built a Better Mousetrap: A Discussion of Economic Value of Advertising.* BU. Prod. by Standard Oil of Indiana. 1957.
108. *The Mandarin Revolution* in *Age of Uncertainty* series. FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1976.
109. *Manners and Morals of High Capitalism* in *The Age of Uncertainty* series. FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1976.
110. *The Manufacturing Midwest* in *United States Geography* series. MGH. Prod. by John Wilman Productions. 1976.
111. *The Market and the Individual* in *American Business System.* IU. Prod. by NET and NAM. 1962.
112. *Market Clearing Price* in *The People on Market Street* series (Unit 5). WDEMCO. Prod. by FREE. Consult. ARMEN ALCHIAN AND DOUGLAS SHETLER. 1977.
113. *The Market Economy in Economics and the Public Interest.* AIT. Prod. by Harvard University Commission on Extension Courses. Taught and writ. by RICHARD T. GILL. 1966.
114. *Marxism: Theory That Split a World.* LC. Prod. by John Irvin. Consult. IORWORTH REES. 1969.
115. *Medieval England: The Peasant's Revolt.* LC. Prod. by John Irvin. Consult. IORWORTH REES. 1969.
116. *The Medieval Guilds.* EBEC. Consult. DAVID K. BORK. 1956.
117. *Metropolis.* WF. (Original dist. Janus Films.) Prod. by Fritz Lang. 1926.
118. *Modern Times.* PP. Prod. by Charles Chaplin. 1936.
119. *Money and Banking.* MTPS. Prod. by Alfred P. Sloan Foundation and Sutherland Educational Films for National Assoc. of Secondary Schools. Consult. LESTER V. CHANDLER, VICTOR R. FUCHS, ELLSWORTH THOMPKINS, THOMAS WAAGE, AND FRED T. WILHELMS. 1968.
120. *Money: How Its Value Changes.* CORF. Consult. LAWRENCE E. METCALF. 1971.
121. *Money on the Move: The Federal Reserve Today.* FEDB. 1971.
122. *Money, Taxes and Imagination.* CENTRO. Prod. in cooperation with the H & R Block. 1976.
123. *Monopoly* in *The American Economy: College of the Air: Lesson 79.* BU. Prod. by AEA and JCEE. Writ. and pres. by JOHN COLEMAN. 1962.
124. *Mr. Edison's Dilemma, or the Perplexing Problem of Keeping Our Lights On.* ASF. Prod. by Portafilms, for America's Light & Power Companies. 1975.
125. *Mrs. Peabody's Beach.* WDEMCO. Prod. by Dave Assoc. 1971.
126. *Natural Gas: Supply and Demand.* ASF for Boston Edison and American Gas Assoc. Prod. by Portafilms with cooperation of American Gas Assoc.; American Petroleum Institute; Atlantic Richfield; Exxon; *etc.* 1974.
127. *Noise Pollution.* LC. Consult. FREEMAN HALL. 1972.
128. *Norma Rae.* TCF. Prod. by Martin Ritt. 1979.
129. *Now That the Dinosaurs Are Gone.* ASF for Atomic Industrial Forum. Prod. by Bill Stokes Assoc. 1974.
130. *Offshore: The Search for Oil and Gas.* MTPS for Exxon. Prod. by Weiler Communications. 1977.
131. *Oligopoly, Part 1* in *The American Economy: College of the Air: Lesson 77.* BU. Prod. by

AEA and JCEE. Writ. and pres. by JOHN COLEMAN. 1962.

132. *Oligopoly, Part 2* in *The American Economy: College of the Air: Lesson 78*. BU. Prod. by AEA and JCEE. Writ. and pres. by JOHN COLEMAN. 1962.
133. *People in American Enterprise, A Series of Views on American Economic History*. MTPS for Phillips Petroleum. RICHARD A. EASTERLIN, ROBERT E. GALLMAN, RALPH GRAY, *et al.* 1976.
134. *Planning the Land*. AIMS. Prod. by Cinema Productions. 1974.
135. *Plantation South*. EBEC. Consult. RAY BILLINGTON. 1959.
136. *Politics, Power and the Public Good*. LC. Prod. by Columbia Pictures. Excerpts from Columbia Picture's *All the King's Men*. 1972.
137. *Pollution of the Upper and Lower Atmosphere*. LC. Prod. with American Meteorological Society. 1975.
138. *The Poor Pay More*. IU. Prod. by NET. 1967.
139. *Principles of Taxation in Structure and Functions of American Government*. BU. Prod. by Encyclopedia Britannica. Narr. by PETER H. ODEGARD. 1963.
140. *Problems of Conservation: Environment in Crisis*. EBEC. Consult. A. SOLLERS. 1970.
141. *Profit? You Gotta Be Out of Your Cotton Pickin' Mind*. LC. Prod. by Stephen Bosustow. 1974.
142. *Property Rights and Pollution* in *The People in Market Street* series (Unit 7). WDEMCO for FREE. Consult. ARMEN ALCHIAN AND DOUGLAS SHETLER. 1977.
143. *Prophets and Promise of Classical Capitalism* in *Age of Uncertainty*. FI. Prod. by Andrian Malone for BBC. Writ. and narr. by JOHN K. GALBRAITH. 1977.
144. *Protective Tariff vs. Free Trade*. BU. Narr. by EDWARD R. MORROW. 1957.
145. *Public Policy Issues of Spectrum Market Structures* in *The American Economy: College of the Air: Lesson 81*. BU. Prod. by AEA and JCEE. Writ. and pres. by JOHN COLEMAN. 1962.
146. *A Question of Balance*. ASF for Boston Edison. Prod. by RFG Assoc. for Edison Electric Institute. 1974.
147. *Recycling Our Resources*. OF. Prod. by Couillard. 1973.
148. *Refinery*. MTPS for Exxon. Prod. by Packham Productions. 1975.
149. *Resources*. OF. Prod. by Art Evans., 1975.
150. *Returns*. BIF. Prod. by James C. Lilly with BIE. Consult. CHARLES VENUS. 1976.
151. *Rise and Fall of Money* in *Age of Uncertainty* series. FI. Prod. by Andrian Malone for BBC. Wirt. and narr. by JOHN K. GALBRAITH. 1976.
152. *The Rise of Big Business* in *Rise of Industrial America* series. EBEC. Consult. JAMES SHENTON. 1969.
153. *Rise of Labor* in *Rise of Industrial America* series. EBEC. Consult. JAMES SHENTON. 1968.
154. *Safety by Design*. ASF for Boston Edison. Prod. by Institute of Gas Technology for Natural Gas Industry. n.d.
155. *Santa Barbara . . . Everybody's Mistake* in *Our Vanishing Wilderness* series. IU. Prod. NET. 1969.
156. *Scarcity and Planning* in *The People on Market Street* series (Unit 1). WDEMCO. Prod. for FREE. Consult. ARMEN ALCHIAN AND DOUGLAS SHETLER. 1977.
157. *Scrap: The Supernatural Resource*. MTPS for Institute of Scrap Iron and Steel. Prod. by Ashton-Worthington, w/B.F. Films. n.d.
158. *Scrooge McDuck and Money*. WDEMCO. Prod. by Walt Disney Productions, 1971.
159. *Sea Venture*. MTPS for Exxon. Prod. by Quest Productions. 1975.
160. *The Second Battle of Britain*. CORF. 1976.
161. *Songs and Stories of Labor*. AFLCIO. Prod. by Rutgers University. 1969.
162. *The South Central Region* in *United States Geography* series. MGH. Prod. by John Wilman Productions. Consult. CLYDE KOHN. 1976.
163. *Strength through Struggle*. AFLCIO. Prod. by Ohio State University Labor Education and Research Service. n.d.
164. *Supply* in *The People on Market Street* series (Unit 4). WDEMCO. Prod. for FREE. Consult. ARMEN ALCHIAN AND DOUGLAS SHETLER. 1977.
165. *Taxes, Taxes!* RB. 1977.
166. *Technological Development* in *American Business System*. IU. Prod. by NET and NAM. 1962.
167. *Three Es are Interrelated*. MTPS for Exxon. Prod. by Centron Productions. 1973.
168. *Through the Northwest Passage*. MTPS for Exxon. Prod. by Vavin. 1970.
169. *To Buy or Not to Buy (Market Demand)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
170. *To Sell or Not To Sell (Market Supply)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
171. *Trader Vic's Used Cars*. EBEC. Prod. by Charles Braverman. 1975.
172. *Tradeoffs*. BIE. Prod. by James C. Lilly with BIE. Consult. CHARLES VENUS. n.d.
173. *Treasure of Sierra Madre*. US. Prod. by John Huston. 1948.
174. *Two Factories*. LC. 1974.
175. *The Ultimate Resource*. MTPS for Union Carbide. Prod. by Here and Now. n.d.

176. *Unemployment and the Keynesian Revolution.* AIT. Prod. by Harvard University Commission on Extension Courses. Taught and writ. by RICHARD T. GILL. 1966.
177. *Urban Impact on Weather and Climate.* LC. 1972.
178. *Vital Force.* MTPS for Chicago Board of Trade. Prod. by Insight. 1975.
179. *Voices. MTPS* for EPA. Prod. by McBride Productions, 1969.
180. *Wages and Production* in *The People on Market Street* series (Unit 6). WDEMCO. Prod. by FREE. Consult. ARMEN ALCHIAN AND DOUGLAS SHETLER. 1977.
181. *Watcha Gonna Do?* EBEC. Prod. by Virginia Educational Television Corp. 1973.
182. *We Decide (Social Decision-Making)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
183. *Welfare.* ZF. Prod. by F. Wiseman. 1975.
184. *What Are Taxes All About?* CAROUF. Prod. by CBS News (Christopher Glen). 1973.
185. *What Harvest for the Reaper?* IU. Prod. by NET. 1968.
186. *What It Takes to Speculate.* MTPS for Chicago Mercantile Exchange. Prod. by Christopher Productions. n.d.
187. *Where Have All the (Canadian) Farms Gone?* OF. Prod. by National Film Board of Canada. 1969.
188. *Why Money? (Voluntary Exchange)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
189. *Why People Have Laws: Shiver Gobble and Snore.* LC. Prod. by Gerald Lesser. Based on children's book by Marie Winnie. 1970.
190. *Why People Have Special Jobs: The Man Who Made Spinning Tops.* LC. Prod. by Gerald Lesser. 1970.
191. *Why We Have Taxes: The Town That Had No Policeman.* LC. Prod. by Stephen Bosustow. Based on book by Marie Winnie. 1970.
192. *Why We Need Each Other: The Animals' Picnic Day.* LC. Prod. by Stephen Bosustow. Based on children's book by Jon Wahl. 1972.
193. *Why We Take Care of Property: The Planet of the Ticklebops.* LC. prod. by Paul Fierlinger. Based on story by Susan Horowitz. 1976.
194. *Will There Always Be an England?* CAROUF. Prod. by John Tiffin for "60 Minutes." 1976.
195. *With These Hands.* AFLCIO. 1950.
196. *Working Together (Specialization)* in *Trade-Offs* series. AIT. Prod. by JCEE, CFEE, and AIT. Consult. PHILLIP SAUNDERS. 1979.
197. *The World Beneath the Sea.* MTPS for Exxon. Prod. by Worldwide Video Assoc. 1976.
198. *World Trade and U.S. Farm Products.* CENTRO. Prod. by John Deere and Assoc. 1975.
199. *A World Without Money.* WDEMCO. Prod. by Film Graphics. 1970.

LIST OF DISTRIBUTORS

ABF Audio Brandon Films, Div. of Brandon Films, Inc., 244 Kearney St., San Francisco, CA 94108.

ACI ACI Media, 35 W. 45th St., New York, NY 10036.

AFLCIO AFL-CIO Film Division, 815 Sixteenth Street, N.W., Washington, D.C. 20006.

AIMS AIMS Instructional Media Services, Inc., 626 Justin Ave., Glendale, CA 91401.

AIT Agency for Instructional Television, Box 1111, W. 17th St., Bloomington, IN 47401.

ASF Association Sterling Films, 410 Great Road, Littleton, MA 01460.

BFA BFA Educational Media, 2211 Michigan Ave., P.O. Box 1795, Santa Monica, CA 90404.

BIE B.I.E., Inc., 11th Floor, Worthen Bank Building, Little Rock, AR 72201.

BPL Boston Public Library, Audio Visual Dept., Boston, MA 02117.

BU Boston University, Film Library, 765 Commonwealth Ave., Boston, MA 02215.

CAROUF Carousel Films, 1501 Broadway, (Suite 1503), New York, NY 10036.

CENTRO Centron Educational Films, 1621 West Ninth St., P.O. Box 687, Lawrence, KS 66044.

CF Churchill Films, 662 North Robertson Blvd., Los Angeles, CA 90069.

CORF Coronet Films, 65 East South Water St., Chicago, IL 60601.

CP Columbia Pictures, c/o Columbia Broadcasting System, 51 W. 52nd St., New York, NY 10019.

EBEC Encyclopedia Britannica Educational Corporation, Instructional and Library Services, 425 North Michigan Ave., Chicago, IL 60611.

FEDB Federal Reserve Bank of Boston, Public Information Department, Boston, MA 02106.

FI Films Incorporated, 1144 Wilmette, Wilmette, IL 60091.

GTE General Telephone and Electronics, Public Affairs, Stanford Operation Forum, Stanford, CT 06904.

IU Indiana University, Audio-Visual Center, Bloomington, IN 47401.

LC Learning Corporation of America, 1350 Avenue of the Americas, New York, NY 10019.

MGH McGraw Hill Book Co., 1221 Avenue of the Americas, New York, NY 10020.

MGM Metro-Goldwyn-Mayer, 1350 Avenue of the Americas, New York, NY 10019.

MTPS Modern Talking Picture Service, 2323 New Hyde Park Rd., New Hyde Park, NY 11040

OF Oxford Films, Inc., 5451 Marathon Street, Los Angeles, CA 90038.

PF Phoenix Films, 470 Park Avenue South, New York, NY 10016.

PP Paramount Pictures, Inc., 1501 Broadway, New York, NY 10036.

RB Red Ball Films, Inc., P.O. Box 298, New York, NY 10014.

TCF Twentieth Century-Fox Film Corp., 10201 W. Pcio Blvd., Los Angeles, CA 90064.

UA United Artists, 729 Seventh Ave., New York, NY 10019.

WDEMCO Walt Disney Educational Media Company, 500 South Buena Vista St., Burbank, CA 91521.

WB Warner Brothers, Non-theatrical Div., 4000 Warner Blvd., Burbank, CA 91505.

WF Wholesome Film Center, 20 Melrose Street, Boston, MA 02116.

WR World Research, Inc., 11722 Sorrento Valley Road, San Diego, CA 92121.

ZF Zipporah Films, 54 Lewis W. Wharf, Boston, MA 02110

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Book Reviews

000 General Economics; Theory; History; Systems

020 General Economic Theory

Catastrophe theory. By Alexander Woodcock and Monte Davis. New York: Dutton, 1978. Pp. viii, 152. $9.95. *JEL 79–0336*

Since its creation scarcely a decade ago, catastrophe theory has been called everything from "the most important event in mathematics since calculus," to "the height of scientific irresponsibility." Woodcock and Davis, a biologist and a mathematician, have written a nontechnical introduction to catastrophe theory that unravels some of the controversy and attempts to put the methodology of catastrophe theory into a proper perspective. The origins and antecedents of catastrophe theory mathematics and natural philosophy are traced; the recent controversy is discussed; and applications to social, biological, and physical sciences are presented. This review summarizes the main points and discusses the relationship and the authors' application of the theory to economics.

Catastrophe theory is more than a branch of mathematics that enables the modeling of discontinuous change in cause and effect processes: it is actually a paradigm that suggests a new mode for analysis. It is controversial because it implies that 300 years of scientific inquiry have been one-sided by viewing nature as smooth and continuous. With the introduction of catastrophe theory, the abrupt changes often dismissed as random aberrations are the main focus of study. Catastrophe theory itself explains nothing, but neither does calculus; both simply provide a framework for modeling.

Behind catastrophe theory are two major ideas: structural stability and the "Classification Theorem." Structural stability is both a mathematical concept of local stability and the major theme of the natural philosophy of René Thom, the creator of catastrophe theory. Thom reasons that, in nature, the causal factors that produce an event can never be reproduced exactly, yet we observe the same events and behavior time and again. Thus, the process that channels causes into effects must allow a range of values for the causal variables and still produce similar events. Processes possessing this characteristic are called structurally stable. Thom reasons that *all* events in nature are generated by structurally stable processes. Mathematically, structural stability requires maximizing or minimizing potential functions and reduces catastrophe theory to analysis of gradient dynamical systems.

The major theorem of catastrophe theory, the Classification Theorem, shows that when causal factors are few (≤ 5), only a finite number of topologically equivalent types of discontinuities can occur. These discontinuities, catastrophes, can be visualized (at least partially) as smooth three-dimensional graphs. This has important implications for scientific methodology: if change can occur in only a limited number of ways, classification and study are possible. The beauty of catastrophe theory is that its rich geometry is accessible with only passing acquaintance with the deep mathematics. As Thom remarked, "The dilemma posed by all scientific explanation is this: magic or geometry." With a geometric model, intuition and insight seem to follow; "black box" systems offer little to spur the imagination for further research.

Catastrophe theory has been criticized on many fronts. Even the mathematics, while flawless, may do little that cannot be done with other branches of mathematics (*e.g.*, singularity and bifurcation theory) and requires a leap of faith in the modeller who must assume that the discontinuity is not really a very rapid continuity. Most criticism has been levied at specific applications and the nonquantitative

nature of catastrophe theory models. Some early applications have been rather hasty. Even E. C. Zeeman, the leading figure in applied catastrophe theory, has constructed models of dubious merit, including a stock market model that may imply that a purely speculative market can never crash. Other applications, particularly those in physics and engineering, have proved very interesting and useful.

The aim of most scientific inquiry is quantification and prediction. With its roots in differential topology, catastrophe theory does not readily lend itself to quantification. Instead, it is qualitative and allows classification of form and change. To Thom and others, this is the kind of mathematics necessary for theoretical biology. Economists are at once reminded of Marshall's dictum, "The mecca of the economist lies in biology," but shy away from the apparent inability to generate quantitative prediction. Indeed, to many this suggests that catastrophe theory is inherently intuitive and speculative. To an extent, this is probably true, but catastrophe theory may also provide a fresh theoretical framework, the starting ground for any empirical model. E. Roy Weintraub [1, 1979], for example, speculates that catastrophe theory may provide the models to link micro and macroeconomics.

The applications presented by Woodcock and Davis are brief and serve only to give the reader a hint to the possibilities of applied catastrophe theory. Two economic models are formulated, an inflation-unemployment model and an industrial pricing model. The inflation model is especially interesting: letting unemployment and the expected rate of inflation be control factors, stagflation is shown to be a common occurrance. There is even a policy implication: the sequence in which monetary and fiscal policies are applied is at least as important as their magnitudes. The pricing model shows that for a given demand elasticity and industry structure (number of firms), either high or low prices may result. Neither model is fully developed (we can expect little more from noneconomists), but the geometry forces the reader to ask new questions. If the pictures do describe real economic phenomena, what must be the underlying dynamic that generates such behavior? This is the usefulness of catastrophe theory: it suggests new ways of thinking and helps turn old facts into new knowledge.

It's too early to determine the role catastrophe theory will eventually play in the sciences, much less economics. It took nearly two centuries for the geometric and quasi-theological writings in Newton's *Principia* to become intuitive and the basis for nearly all science. The fate of catastrophe theory will likely be resolved in much less time, but as yet, the verdict is still out. Already catastrophe theory models are appearing in economics journals. For economists questioning the conventional wisdom or ready to supplement the received theory with a methodology to analyze turning points and abrupt change, catastrophe theory shows promise. Woodcock and Davis's book is an excellent entry point for this new and controversial subject.

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REFERENCE

1. WEINTRAUB, E. ROY. *Microfoundations: The compatibility of microeconomics and macroeconomics.* New York and Cambridge: Cambridge University Press, 1979.

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

On revolutions and progress in economic knowledge. By T. W. HUTCHISON. Cambridge; New York and Melbourne: Cambridge University Press, 1978. Pp. xiv, 349. $29.50. *JEL 79–0033*

Thomas Kuhn's *Structure of Scientific Revolutions,* at once exciting and elusive, has left in its wake a good deal of confusion among historians of economics. There is no agreement on whether and if so how many revolutions have occurred, and the proliferation of claims has not been matched by an equivalent amount of diligent digging. It is a pleasing prospect, then, to find Professor Hutchison undertaking the necessary task of mustering "more of the relevant materials about the more important cases and elements, from which answers can be built up regarding the nature of the main changes or turning-points . . . and

also regarding the 'progress' . . . that comes about, or is claimed" (p. x) in economics.

Hutchison pursues his task in the "inductive" manner, beginning with a loose, working definition of "revolution" and offering some tentative generalizations only at the very end. In between there are 10 "case studies." The basis for these studies existed in previously published work by Hutchison, extending over more than 40 years. But the separate pieces have been so thoroughly, in some instances virtually entirely, reworked and redirected by the author's main line of inquiry that they amount to fresh contributions. They bear the marks of all of Hutchison's work: a knack for choosing interesting questions, impeccable scholarship, sharp but substantiated criticism, disdain of fashion, distaste for anything that smacks of centralizing attempts to circumscribe individual freedom of choice, and an ease with words that makes reading a delight.

The reader is here offered a veritable feast, for in pursuing his main questions—the substance of revolutions and progress in economics—the author introduces a host of subthemes, ranging from James Mill as methodologist to Joan Robinson as historian of economic thought. The trouble is that Hutchison commands one's attention, so that after being carried along on all of these intriguing excursions one is likely to end up with arms full of souvenirs but no very clear recollection about the trip. The final chapter brings us back to the main purpose, but there are few surprises; the author himself seems none too confident about what it all amounts to; the conclusions are specific and circumspect; and one's most lasting impression may well be that what is called progress in economics is going to depend on which methodological rules one prefers. For Hutchison, not surprisingly, revolution and progress turn out to be both defined and measured by the benchmark of empirical content. He accepts the familiar trilogy of genuine revolutions: a *laissez faire* revolution, a Jevonian revolution, and a macro revolution. What he calls the Mill-Ricardo methodological revolution is also genuine enough, but doesn't fit into the author's preferred empirical economics. Marx does not pass muster, though for two very different reasons. He drew too heavily on Ricardo for substance, while his ideas have not been widely accepted where economists enjoy full freedom of discussion. Some possible revolutionary episodes, such as the *Methodenstreit*, turn out on examination to have been not more than shifts in interests or attention. The would-be Sraffian revolution is judged strictly a rebirth of Ricardianism, though with even less empirical content. Here a complaint of many will be that Hutchison fails to distinguish clearly between neo-Ricardian, neo-Marxistic, neo- and post-Keynesian claims (on page 239 they are simply lumped together as of a kind).

As might be inferred already, this book is a highly personal statement, and part of its attractiveness lies in the author's forthright declaration and defense of his preferences. Hutchison is *for* refutable propositions, *against* extreme abstraction, and *against* pretensions to generality in theory based upon the false assumption of perfect knowledge. He is *for* economists who accept that the materials for testing economic propositions are complex and changeable, that as a consequence final refutation may be impossible, that as a further consequence there is an inescapable past even in the most "current" of theories, and that as a final consequence, truth in economics is scarce, so that no method can be dismissed *a priori*. He is *for* economists who, when called upon to draw policy conclusions, give due place to the imperfectness of economic knowledge, and to social, historical, and political factors. With respect to his own profession, Hutchison is *for* history that is critically objective and *against* self-serving reconstructions.

Thus he is for Adam Smith, who was "methodologically comprehensive" and took an encompassing view of the scope of his subject, and for the long line of less illustrious proponents of historical, "inductive" methods in economics. Among these the neglected Cliffe Leslie gets very high marks, not least for his clear grasp of the fact that assuming perfect knowledge and ready self-adjustment to equilibrium will not do. Keynes is acceptable, in so far as he reiterates—albeit only as *obiter dicta*—Leslie's points, but he is sharply rapped for engaging in "dubious conceptual analysis and logomachy" and for plucking from the air assumptions suited to his predetermined conclusions after his abandonment of perfect

knowledge destroyed the possibility of truly general theory.

Two sorts of villainy are forcefully exposed and condemned. One is the practice of James Mill and Ricardo of passing off their "strong cases" as universal truth. Totalitarianism is the second. Hutchison sees disturbing parallels between the methodological exclusiveness, self-confidence, and pretensions to scientific and social omniscience exhibited by James Mill and by totalitarian regimes. And he finds that some recent Cambridge reconstructions of the history of economics, with their deployment of simple models, revival of the "pseudo-theory" of labor values, neglect of demand, and so on come uncomfortably close to combining both forms of villainy.

This bare and selective summary of accolades and rebukes does not do justice to Hutchison's detailed and careful scholarship, but it may serve to show the reader that this is no dry history but a tome for the times.

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Keynes, Cambridge and "The General Theory": The process of criticism and discussion connected with the development of "The General Theory": Proceedings of a conference held at the University of Western Ontario, the Hebrew University of Jerusalem, and the Canada Council. Edited by DON PATINKIN AND J. CLARK LEITH. Toronto and Buffalo: University of Toronto Press; London: Macmillan Press, 1978. Pp. xii, 182. $20.00. *JEL 78–0642*

For years the creative process that gave final shape to Keynes's *General Theory* was somewhat legendary in form, supported largely by oral tradition. As a result of the conference that gave birth to the book under review, we are now supplied with a quite full, substantial, and informative account of the actual creative process, by some of those who participated in this process together with students of the underlying documents. The conference on Keynes, Cambridge, and *The General Theory,* held in 1975, was sponsored by the Hebrew University of Jerusalem and the University of Western Ontario with the support of the Canada Council. It was hoped that from the dialogue between individuals who had actually participated in the creation of the *General Theory* and those who had studied documentary evidence relating to its creation a better understanding of the creative process would emerge. This hope has been realized.

In his contribution to the four-chapter section dealing with the development of the *General Theory* between 1930 and its publication, Patinkin identifies three stages in its development. During the first, the criticisms of the Cambridge "Circus" and especially certain individuals (*e.g.*, Ralph G. Hawtry, Dennis H. Robertson, Friedrich A. Hayek) made Keynes aware of the inadequacies of his then newly-published *Treatise on Money,* out of which mold he did not get until the end of 1933. Most critical was the second and formative stage, one marked by intensive discussions. In 1935 the third stage began with the distribution of galley-proofs to the "outside world." Keynes, however, fulfilled the role of intellectual innovator to a degree sometimes underestimated. Some exception is occasionally taken to Patinkin's views by other authors. Austin Robinson discusses Keynes's relations to his younger Cambridge colleagues, his consultation with them, and the nature of their help, always under Keynes's initiative and leadership. Robert B. Bryce, Walter S. Salant, and Lorie Tarshis describe how Keynes was viewed by his students in the 1930's. "A Chronicler's View" of "Cambridge discussion and criticism surrounding the writing of *The General Theory*" is presented by Donald Moggridge. These four chapters are followed by a very informative general discussion on the part of most conference participants.

In separate chapters Elizabeth Johnson describes Keynes as "literary craftsman," and Harry Johnson examines the impact of the academic environment of Cambridge on economists, economics, and related matters in the early 1930's. Discussion of these papers follows.

Appendices are devoted to Patinkin's correspondence with Richard Kahn, a paper by Bryce and related correspondence with Keynes, and Bertil Ohlin's comments on "Keynesianism" and the pre-1935 "Swedish Theory of Expansion."

A bibliography together with appendices of names and subjects round out this informative volume, a volume of great value both to stu-

dents of the history of the origin and evolution of economic ideas and to scholars interested in Keynes's contribution.

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040 ECONOMIC HISTORY

Immigrants—and immigrants: Perspectives on Mexican labor migration to the United States. Edited by ARTHUR F. CORWIN. Contributions in Economics and Economic History, no. 17. Westport, Conn., and London: Greenwood Press, 1978. Pp. xii, 378. $18.95

JEL 79–0051

The United States is in the midst of the largest immigration movement in history. Yet, surprisingly, little attention is given to the issue despite the momentous implications for both the present and the foreseeable future. Unlike the past, the majority of the immigrants now enter the country illegally. It is obvious that prevailing immigration policy is totally ineffective in the accomplishment of its stated objectives. Even more important is the fact that the nation is rapidly acquiring and institutionalizing a subclass of rightless and exploitable persons that is substantial in size.

Although immigration to the United States—both legal and illegal—involves persons from virtually every country in the world, Mexico has, since the turn of the century, been the source of the majority of the illegal immigrants and, since the mid-1960's, the plurality of legal immigrants. It is the immigration from Mexico that is the topic of the book edited by Arthur Corwin. The volume contains 13 essays. Of these, Corwin himself is the author of eight and co-author of three more. Several essays are historical. They present the evolution of the issue in carefully documented detail. Most of the remainder of the essays deal with specific issues (*e.g.*, the inadequacy of existing statistics, immigration policy ambivalence, labor market impact, and human rights considerations). One chapter consists of autobiographical accounts of the experiences of two illegal aliens who have spent almost their entire lives in the United States. In addition, there is an excellent essay by Paul S. Taylor on the future of Mexican immigration. Taylor's monograph series on Mexican labor in the United States (written between 1928 and 1934) remain the seminal works of that era, and his wisdom into the contemporary dilemma is instructive.

The contribution of this book is the thoroughness with which it examines the issue. There already exist numerous excellent studies of facets of this evolutionary drama—such as books on the repatriation drives of the 1930's; the bracero years; the migrant worker phenomena; and the complexities of border economics. But there does not exist any comparable volume that has approached the totality of the issue and which has incorporated the magnitude of research findings as does this book. In addition to its exposition of the findings of others and its linkage of these disparate works into a single thread, there are numerous additional insights provided in Corwin's essays. They are the results of oral interviews and a meticulous review of lesser known writings (*e.g.*, M.A. theses, pamphlets, and archival documents). It is a *tour de force* of the literature. Diverse views are amply and fairly represented. It is clear, however, that Corwin has become thoroughly disgusted with the current state of affairs. Despite occasional interjections of personal frustration, anyone reading the book will benefit from the experience, regardless of whether he or she is an expert or novice in the subject.

Aside from the scholarly information, the value of the book is its underlying theme: namely, the prevailing immigration system is in shambles. On the American side of the border, an unholy combination of exploitive firms, corrupt and inept politicians, an overwhelmed enforcement agency, opportunistic Chicano community leaders, and activist civil libertarians has developed. On the Mexican side, there are the economic conditions of massive poverty, unemployment, and underemployment as well as the demographic reality of an ongoing population explosion. These conditions in Mexico have combined with a political system of state-owned capitalism that has generated a powerful ruling elite who have manipulated the illegal immigration issue as a way to forestall needed domestic reforms and to protect a grossly unequal distribution of income. The result, as Corwin convincingly demonstrates, is a nightmare that seemingly has no end. There are enough accounts of inhu-

mane treatment and exploitation to provide a script for a television series of indefinite duration. There are the selfish business interests who are seeking a source of cheap labor as well as a way to block unionization; there are the unscrupulous smugglers who often extort, abuse, and betray the helpless souls who entrust their lives to these modern day slave merchants; there are the document forgers; the loan sharks; the phony marriage brokers; the pregnant mothers who trek across the border for the birth of their children; the American midwives who falsify Mexican births as taking place in the United States; the bribed government guards and immigration officials on both sides of the border; there are the hypocritical union leaders who advocate sanctions against employers for hiring illegal aliens but who lobby to exempt union hiring halls from such coverage; there are the misguided civil libertarians who constantly fight through the courts to neutralize any punitive or deterrent policies, yet whose actions help to create a rightless class; there are the immigration lawyers who nit-pick at the rules, regulations, and statutes in order to bog down the administrative machinery and to collect their high fees from the poor; there are the Chicano militants who betray their community followers by attacking anyone as a "racist" who indicates that unrestricted immigration adversely affects the Chicano labor force the most; there are the politicians who are the savants of all the various pressure groups, who stifle any effort to enact enforceable public policy measures; and there are the vigilantes who beat, rape, rob, and sometimes kill unsuspecting aliens who fall victim to their presence.

Before one can understand the nature of the policy dilemma, it is necessary to delve into the myriad of unique institutional factors. Among these discussed in the book are such concepts as "green carders," "white carders," H-2 holders, "the Texas proviso," the "voluntary departure system," the "Chicago stays," "Rodino bills," and "the Mordida," to mention only a few. The only significant issue that is not touched by Corwin is potentially the most dangerous aspect of the entire subject. That is the second generation effects. What are the long-term ramifications of the maturing of the children of illegal aliens into adults? The current generation may be grateful for the economic opportunities provided by employment in the United States, but it is certain that their children will not be—nor should they be. Growing up in a family environment of ineligibility for minimum social protections (*e.g.*, food stamps, unemployment compensation, and supplementary benefits); of denial of all political voting rights; and of frequent economic exploitation can only be expected to generate dire consequences in the long run.

The only serious criticism of the book is that Corwin, a historian, does not understand the essential economic impact of illegal aliens. He allows his case to rest on the idea that the advent of welfare payments and unemployment compensation have attracted American workers away from certain low wage occupations, which illegal aliens have now moved into. This charge misses the whole point, and it wrongly condemns the nation's social insurance systems. Rather, the point should be that it is the presence of illegal aliens in substantial numbers that depresses or retards wage levels (also unionization opportunities and competitive fringe benefits) in these selective labor markets to such a degree that citizen workers must withdraw from the competition. No citizen worker can compete with an illegal alien when the terms of the competition are who will work the longest hours, for the lowest pay, and under the most arbitrary conditions.

Immigration reform deserves a high priority on the national agenda. The present volume contributes to a wider recognition of the broad dimensions of the issue and of the immediate urgency for action.

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The origins of central banking in the United States. By RICHARD H. TIMBERLAKE, JR. Cambridge, Mass., and London: Harvard University Press, 1978. Pp. ix, 272. $18.50. *JEL 79-0064*

This book provides interesting and useful information about the American monetary landscape in the nineteenth and early twentieth centuries. To his credit, the author draws on and works with the records of congressional debate since 1789, executive replies to congressional inquiries, reports of commissions,

annual reports of Secretaries of the Treasury, committees of the currency, and other U.S. Government officials. He views his work as essentially "a type of intellectual history."

He presents his story in fourteen well-written chapters, some appearing elsewhere in journal articles. In essence, he argues that central banking in the United States developed because people, circumstances, and conditions favored its development. This is supported by various citations of "who said what and when" in debates before Congress and in the halls of America's financial institutions.

This is useful if only because nowadays economic history and, indeed, history of economic thought, are not compulsory for all economic students. As a result, today many economics students, even Ph.D.'s, have no historical perspective for their theories or investigations of contemporary problems. Much of their writing is as a result rather naive. They fail to appreciate that many seemingly new problems have an ancient lineage and that much economic theory as well as economic institutions have developed in an attempt to explain or adjust to some more important episodes in the past.

Professor Timberlake seeks to remedy these defects in the case of the development of central banking in the United States. His analytical argument, unfortunately, becomes at times blurred. The connection between external and internal events is not clear. He seems to stress that given the operation of the international specie standard, central banks are so much excess baggage. Perhaps they are. The important role that the international specie standard played in linking together the various trading countries and especially in accounting for much of the monetary turmoil in the United States in the first half of the nineteenth century is not in dispute, certainly not by me, since I wrote on that very issue in my doctoral dissertation almost a quarter of a century ago while in the Money and Banking Workshop of the University of Chicago.

Given the operation of the specie standard, innovative ventures into central banking were very limited indeed. It is in this sense that Professor Timberlake's concern and discussions of who said what, when, and where is so much froth on the surface. The important issue is linking internal and external events and their interaction.

External influences are important. They tended to be monetary in nature. The author could well have addressed these issues in greater detail. For instance, a useful and important story still remains to be told on the international transmission of central banking ideas. Lessons learned would very likely serve to assist in contemporary problems of international technology transfer and of development of new central banks for countries or groups of nations.

The author's discussion on the Federal Reserve System and its relationship to member banks could have benefitted from a more precise discussion of the "stock" that member banks are required to hold in the Federal Reserve Banks. Instead of "stock ownership," what really exists is a contract under which the 6 percent return is a subsidy paid to member banks to participate in the public enterprise of money creation, or more accurately in taxation, under rules imposed by the federal government. The "stock" is (or better today "was") a "subsidy" in the sense that it is practically a high-yield government bond. The amount of the subsidy depends on the difference between a 6 percent return and the going rate on government bonds. The true subsidy was somewhat less than this differential because the "stock" unlike the government bond cannot be converted into reserves. The Federal Reserve is indeed a public enterprise—albeit of a unique sort.

In summary the book can be said to be a clear exposition of historical facts which, however, were already quite well known. It is historical and descriptive rather than analytical and theoretical. It does contain much information of historical value, which otherwise is not readily available.

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Dutch shipbuilding before 1800: Ships and guilds. By RICHARD W. UNGER. Aspects of Economic History: The Low Countries series. Assen/Amsterdam: Van Gorcum, 1978. Pp. xi, 216. $16.25. *JEL 78-0932*

The history of the shipbuilding industry during the Dutch Republic has not been given

the attention it deserves when one considers its contribution to economic growth. This lack has now been more or less met by Richard Unger's *Dutch Shipbuilding before 1800.* At first one is inclined to see the growth of shipbuilding as a result of expanding international trade, but this explanation is too narrow. The present economic historical view of the Dutch Republic (consisting of Holland and Zeeland and five other provinces) is no longer that of one sector or industry leading the way, with the other sectors or industries deriving their development from its growth. Not long ago the history of the Republic was one-sidedly seen as a process of economic growth stemming from international trade and trade-related industries. A more balanced approach is to be found in recent publications like Jan de Vries's *The Dutch Rural Economy in the Golden Age, 1500–1700* [1, 1974], J. W. de Zeeuw's "Peat and the Dutch Golden Age: The Historical Meaning of Energy-Attainability" [3, 1978], and Jan de Vries's "Barges and Capitalism: Passenger Transportation in the Dutch Economy 1632–1839" [2, 1978]. This approach is also true of the book under review.

Statistics for production in shipbuilding are not available for the period before 1800. Therefore Unger has been forced to choose another approach. His book centers around technological development and the importance of shipcarpenters' guilds. If shipping, commerce, and international trade was the most dynamic sector of the Dutch economy, then technical change in that sector must partially explain the unique pre-industrial development of the provinces of Holland and Zeeland. Unger's choice of the guilds as a central point in the analysis of shipbuilding was determined by the availability of sources and by the peculiar character of these institutions.

The contribution made by shipbuilding to the economic growth of the Dutch Republic was not confined to a quantitative and derived growth of the industry resulting from a growing demand for ships. The technological development in shipbuilding also had a stimulating effect. During the fourteenth century, Dutch shipbuilders worked along lines similar to other North-Europeans, and until the end of the sixteenth century, South-European shipbuilding was superior in quality. However by 1600, Dutch shipbuilders had closed this technical gap between their work and that of the Italians. The main success in Dutch shipbuilding was the gradual improvement, through small additions and modifications, of inherited designs. The cumulative results of this evolution appeared ultimately to be revolutionary. And the cause? The exceptional position of the Republic in international trade made it possible to design specialized ships adapted to the needs of the shippers and to the circumstances under which they were to be used. Experiments both during the design phase and during building were necessary in view of the great potential loss through shipping disasters. Compared to other moving capital goods, ships were very expensive investments. Specialization in shipping formed the main independent stimulus for a technological development, which resulted in a wide range of different types of ships.

During the seventeenth and eighteenth centuries, the Holland and Zeeland shipbuilders did not try to compete in the building of large ships. Indeed, the innovation in design had slowed down appreciably by the 1630's, and had declined even further after the 1670's. It appears that as the limits of commercial expansion were reached, there was less need of innovation in shipbuilding; its stimulus had disappeared. But this was not the only cause of decline. Other European governments had begun to protect not only their merchants and shippers against Dutch competition, but also their shipbuilders; the Republic was involved in wars, which led to an unprecedented tax burden and an enormous public debt; there were high wages in Holland and Zeeland, and a shrinking domestic market for new ships. Further, the Republic had only a small part of the rapidly growing colonial and extra-European trade, and the entrances to Dutch harbors were so bad they required adapted types of ships.

The decrease in growth and innovation made the shippers and guilds look for other ways of maintaining their position. In general, Dutch shipcarpenters' guilds imposed more restrictions on the activities of their members and became more protective towards their markets. As far as urban industry was concerned, these restrictions were partly the result of the success of the free shipbuilding in the Zaanstreek. Its remarkable growth in the

seventeenth century seems to have confirmed the liberal view of the advantages of freedom from guild control, at least under the then existing circumstances. But in the eighteenth century this free industry also collapsed.

The book is completed with eighteen informative guild letters. Unger gives in a nutshell (118 pages) a good insight into the rise and further development of an important pillar of the Dutch Republic's economy. There remain however, some points of criticism. I feel that more attention could have been given to rural industry, which, although of little importance internationally, was essential to traffic on the Dutch waterways. There is also no discussion of the Groningen shipbuilding industry.

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REFERENCES

1. DE VRIES, JAN. *The Dutch rural economy in the Golden Age.* New Haven and London: Yale University Press, 1974.
2. ———. "Barges and Capitalism: Passenger Transportation in the Dutch Economy 1632–1839," *A. A. G. Bijdragen,* 1978, *21,* pp. 33–398.
3. DE ZEEUW, J. W. "Peat and the Dutch Golden Age: The Historical Meaning of Energy Attainability," *A. A. G. Bijdragen,* 1978, *21,* pp. 1–31.

050 ECONOMIC SYSTEMS

Beyond boom and crash. By ROBERT L. HEILBRONER. New York: Norton, 1978. Pp. 111. $6.95. *JEL 78–0938*

In the mainstream of economic literature growth is the hero and business instability the villain. While there are many discussions about the downturn, its beneficial effects are given little play; to the extent that they are dealt with, it is only in the exegesis of market competition. In the Marxist branch of the literature, cyclical downturns have a larger role; in fact they have an indispensable place in the unfolding of the process of capitalist accumulation. But here, too, the downturn, besides being bleak, is the blackguard that transforms the successful entrepreneur into the giant monopolist. Indeed, it is the series of downturns that have moved us from the "competitive capitalism" of the 1860's through "monopoly capitalism" into the "welfare capitalism" of the 1960's.

In this recent, elegant essay, Heilbroner gives the "purgative" effects of the downturn—or to be precise their absence—center stage and argues that we are about to enter a new phase: "capitalist planning."

Heilbroner begins with "Another worldwide crisis of capitalism is upon us" and goes on to argue that the 1973–75 contraction differed from previous ones. The basic facts are well known and broadly agreed upon. As measured by traditional indicators, a major spasm took place when the world long-term growth ceased in 1973. Output declined, employment fell—in some countries more, in others less—but clearly everywhere and by much. Yet given the dimensions of the contraction, there was no panic—few firms went bankrupt; almost no bank closed its doors; markets—except for a very few isolated commodities—did not collapse; fortunes did not change hands. While the unemployment rates increased, there were no long lines of unemployed workers; instead the "guest workers" of Western Europe went back to the more rural societies of Greece, Yugoslavia, and Turkey: while in the United States instead of mass layoffs, there were fewer jobs for women and teenagers newly entering the labor force in large numbers. Most importantly, prices did not fall; instead here, and less so abroad, "stagflation" took over with the rate of inflation continuing to creep up almost unaffected by the crisis. Heilbroner has little new to say about the persistence of inflation: he underlines the inflationary effect of the decline of the "American imperium" and notes how representative democracies cannot reduce government spending "because the political motivation behind it has a stubborn inertia that contrasts with the more volatile spending behavior of the private sectors." (p. 46).

By 1975 the upward movement of the traditional indicators had resumed, and it could be said that the crisis was over. Not so, argues Heilbroner. The continuing inflation, the depressed state of the world stock exchanges, the unease of capitalists shifting the quality and nationality of their assets, the terrorism of the

world's youth gangs and the apocalyptic scenarios of best sellers, such as Paul Erdman's *The Crash of '79* [1, 1976] all point to a ubiquitous sense of a problem that lingers on.

The contraction of 1973–75 thus was *Beyond Boom and Crash*, a different downturn. Inflation, the working of the planning systems internal to the giant enterprises, the entropy in governmental systems trying to offset each others' actions, all nullified the curative effects of the downturn. The cleansing effects associated with the social and technical change typical of other contractions did not take place, leaving behind not a crisis definable by economic realities "but one of expected developments, not one of economics alone but of belief" (p. 69).

Few in our profession have as consistently as Heilbroner moved back and forth between the detailed probing of precise theoretical propositions and the elucidating of the broad interplay of institutions and ideas in our society. Few economists have produced both successful intermediate theory texts and popular books with titles such as *The Future as History* [2, 1960] or *An Inquiry into the Human Prospect* [3, 1974]. With all its technical complexity, most of the book reviewed here first appeared in *The New Yorker* with the subtitle "The Reflections of an Economist." Heilbroner's writing for many publics and at many levels is a major virtue because it invariably points to new directions.

As a manpower consultant to large firms during the 1973–75 crisis, this reviewer witnessed numerous organizational restructurings, experiments with job contents, the introduction of new assessment and evaluation techniques, the restructuring of career ladders, and an increase in the staff to line ratios. In the great majority of firms with lower profits and relatively smaller increases in dollar revenues, inefficient employees were kept on the job, marginal managers were not demoted, at the most a few of them had to share in smaller bonus pools.

Where the Heilbroner argument leads to is greater concern with intrafirm failures. Although mistaken decisions are recognized by economists, too little is made of them. With the firm often larger than the nation-state, intrafirm contradictions need to be focused upon. "Slippage" is recognized in talking about the political executive, but much less is said about the equivalent "slippage"—often a form of unconscious sabotage—faced by the private chief executive blocked by the managerial bureaucracy. Heilbroner writes about "the lurking indiscipline of the labor process" (p. 33), and there is a suggestion that what is involved is the Lordstown type malcontent of the proletariat and the deterioration of the quality of work life. With the increased importance of internal or strategic planning—all aimed at creating buffers between the firm and the market—it seems more useful to focus on the lurking indiscipline of managerial processes. It may be that the purgative effects of the downturn are nullified in the external market because they are originally blocked by the internal bureaucracies—it is rarely noted that the economists' batting average on aggregate forecasts is much better than that of managers in achieving internal targets. The contraction of 1973–75 was preceded by the telephone industry's underestimate of its demand, by the air transport industry's errors in equipment investment decisions, *etc.* Heilbroner's broad sweep leads to all kinds of reassessments, both as to the future of our society and of our discipline. The disassociation of macro and micro is only one of them.

Heilbroner is only suggestive about the nature of capitalist planning, but clearly it will require a better understanding of the impacts of strategic planning.

Beyond Boom and Crash is well worth reading; it stimulates thought, and what more can one expect from a small essay?

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REFERENCES

1. ERDMAN, PAUL. *The crash of '79.* New York: Simon & Schuste, 1976.
2. HEILBRONER, RICHARD L. *The future as history: The historic currents of our time and the direction in which they are taking America.* New York: Harper, 1960.
3. ———. *An inquiry into the human prospect.* New York: Norton, 1974.

The attack on corporate America: The corporate issues source book. Edited by M. BRUCE

JOHNSON. New York: McGraw-Hill, 1978. Pp. xv, 348. $14.95. *JEL 79-0366*

This book is, at the outset, difficult to review, since it takes the form of a collection of 61 brief essays by a large number of economists, lawyers, and scholars in management and finance. The project was sponsored by the Law and Economics Center at the University of Miami.

The book "[addresses] the issues and challenges raised by contemporary critics of the large American corporation . . . designed to provide a 'quick fix' on the substance of a wide variety of issues, [summarizing] pro and con arguments on issues and indicate the results of thoughtful analyses" (p. xi).

The essays are classified under four major headings and 11 sub-headings. The major headings are (I) Sociopolitical Analogies and the Corporation, (II) Control of the Corporation, (III) State Versus Federal Chartering of Corporations, and (IV) Corporate Power and the Market. Each major heading has a variety of sub-headings, as for example under (I), Corporate Social Responsibility and Accountability, Employment Relationships, and Political Issues. Except for heading (IV), which contains 27 of the total of 67 essays under 4 subheads, the number of essays per section is relatively equal.

All the essays are approximately the same length, roughly 5 printed pages, each headed by a one paragraph editor's summary and cross referenced to other essays in the volume to which they relate. The volume also contains a 32-page bibliography and a brief list of legal sources.

The book is written and edited at the layman's and student level, and given the short length of each essay, the issues are not, of course, explored in depth, but only briefly surveyed. Also given the large number of authors, there is a wide range of views and treatments.

In the reviewer's opinion, the most valuable portion of the book is part one, which raises broad and relatively unexplored issues, in contrast for example to part four, which is concerned with corporate power, pricing, output decisions, *etc.*, all well-charted ground.

Part one concerns itself with such matters as the appropriateness of corporate efforts in the area of social responsibility, the cost of pursuing such goals, impact of the corporation on individual responsibility, disregard of citizens' rights by the corporation, degree of democracy in the corporate structure, and similar issues.

Much of this material appears, at least to this reviewer, as relatively new and in tune with thinking on current issues such as the impact of the corporation on employee civil rights, alienation of workers, and the relationships between the corporation, women, and minorities. These are issues not generally covered in traditional courses in government and business, and only recently much thought about.

Part two deals essentially with narrow and technical issues of corporate control such as too much/little managerial authority, shareholder roles, tender offers, the quality of business reporting, and so on.

Part three deals for the most part with the familiar issues of control of competition under federal state chartering, and with only 34 pages, is the shortest in the book.

The issues covered in part four are essentially economic, such as administered prices, impact of advertising cost, corporate pricing and inflation, industrial concentration, and pricing and output decisions. All of this material will be familiar territory to students of industrial organization and control.

For the student or laymen unacquainted with these matters, the material will be merely introductory, and he will be forced to turn to more traditional sources for in-depth treatment, *e.g.*, the final article "Should Criteria for Antitrust Action Be Broadened?" requires roughly 1000 words to reach the conclusion that no broadening is necessary.

In the preface, Professor Henry C. Manne, Director of the Law and Economics Center, notes that antibusiness feeling in America has had a long history and that in times of national stress the corporation has provided a handy target for frustration, since it is an impersonal and frequently misunderstood organization. In one sentence he compares the antibusiness feeling and ignorance as to its role (and consequent tendencies to blame it for all misfortunes) to the tendency of Nazi "scholars" to fix blame for national ills on the Jews.

This may seem a bit much, but it generally sets the tone of the book, and on balance the

authors present the corporation in a highly favorable light:

> Many persons studying this work will be surprised to learn that *the weight of high-grade scholarship* about the modern corporate system supports strongly the conclusion that unregulated corporate capitalism functions more desirably than various louder voices have led us to believe. (Italics added; p. xv.)

The essays present many corporate-public issues in a new light, and the book acts to balance the more typical academic view that state/federal regulation is the answer to all problems and that the Interstate Commerce Commission, Federal Trade Commission, and the Antitrust Acts have saved Western Civilization from disaster; yet the essays are merely alternative points of view and far from being convincing proof, based on high grade scholarship.

However, within its limitations this is a useful work. It might well serve as a supplementary text for courses in government and business, as well as a source book on the subject of the posture of the modern corporation *vis-à-vis* society.

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100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

Planning process in Indian polity. By V. D. DIVEKAR. Bombay: Popular Prakashan, 1978. Pp. xii, 398. $12.50. *JEL 79–0073*

The stated objective of Divekar's book is to analyze the process of planning in India, as it evolved mainly through the performance of the four Five Year Plans (1951–71). This purpose the author has sought to accomplish by conducting "a searching enquiry into several issues such as the extent of ideological influences on planning process in India; the impact of planning on the programmes and policies of political parties and organized interest groups; the organizational strength and weaknesses of various political parties in relation to developmental needs of the country" (p. viii). In short, his work can be considered as an attempt to study "the mutual relations between political institutions, political groups and political ideologies vis-a-vis planning and its implementation in India."

This volume, which is an outgrowth of a doctoral dissertation presented at the University of Poona, is clearly the product of an intensive and careful examination of many documents and data. Considering the length and breadth of the materials the author has examined, the book is an admirably brief one.

Those who are familiar with Albert H. Hanson's *The Process of Planning* [1, 1966], Prasanta Chandra Mahalanobis's *Talks on Planning* [3, 1961], and Arthur Lewis's *Development Planning* [2, 1966] will probably find Divekar more historical and descriptive of actual planning procedures and institutions, and less analytical and theoretical than these earlier presentations.

The problems of planning and its implementation are studied in macro-economic form, and the book can be divided into two parts. The first part deals with the planning procedures. In three successive chapters, the process of planning is discussed at the level of the Planning Commission, Parliament, and the federal polity.

The chapter on the Planning Commission begins with its formation in March 1950 and traces through the developments that have taken place since then. The chapter contains many historical facts detailing the success with which the Planning Commission has formulated and implemented its targets, in response to the needs and views of diverse political segments of the country. More useful and informative, however, in this reviewer's opinion, is the latter part of the chapter where the author discusses "Perspective and Physical Planning" and "Annual Plans." An analyst interested in gaining a perspective about planning may find the section on planning evaluation particularly useful.

The chapter on the relationship between Parliament and plan explains how the ultimate decisions regarding the basic planning objectives are taken up by the representatives of the people. The Parliament of India, as a body reflecting the will of the nation, has an important role in the planning process, and the ex-

tensive discussion of the ways in which Parliament exercises that will is amply justified. One thing that would strike any careful reader, however, is the absence of any coherent philosophy on the part of the government as to the goals and mechanism of planning. This conclusion reaffirms the conclusions reached by an earlier study by Periasamy on the same subject [4, 1972].

Chapter 3 on "Federal Polity" brings out clearly the nature and relevance of the center-state relationship in India. The federal structure in India is superimposed upon a complicated political, geographical, and cultural framework; and has been itself a complicating factor from the standpoint of the planning enterprise. Indian states are diversified in many respects, and their differing demands and priorities put exceptional burdens on the planners in coming up with a plan document suited to all. Dr. Divekar devotes a great deal of space discussing these aspects. The organizational framework and its impact on planning, mutual interaction of regionalism and the planning process, and pressures from the states are discussed at length. The author spares no effort in elucidating whatever details directly or indirectly affect and influence the planning process in India.

Of the remaining five chapters, four constitute the second part of the book with the final chapter providing an overview of the set of conclusions. Divekar devotes considerable attention to the participation of organized social groups, such as political parties, chambers of commerce, and the federation of trade unions, in the formulation and implementation of plans. There is also a discussion of the part played by the press, of foreign influences upon Indian planning, and participation by the people.

At times, however, the author is drawn rather too deeply into expositions of party politics, and Divekar then seems to lose the balance between the economics and the politics of planning. He would have written a better book if he had devoted more space to a bird's eye view of the planning process, curtailing his detailed treatment of the intricacies of Indian politics in general and Congress Party politics in particular. The author manages to convey the impression that planning has been a party scheme rather than a governmental program, and this impression is no doubt a misleading one!

One of the best features of Divekar's work is its explanation of the relationship between business and planning in the Indian context. This segment is better balanced than some others and avoids unnecessary detail. The author supplies some new insights into the problems attending the process of rational economic planning. His analysis of the involvement of politicians in the formulation of plan priorities and targets is of exceptional interest. Especially significant is Divekar's observation that one of the main reasons for the increase of the powers of the Planning Commission was they were not influenced by political considerations.

Overall this volume is another valuable addition to the growing body of literature on the national planning process viewed in historical perspective, and the Indian case is particularly important because the country has pioneered the planning process within the democratic framework.

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REFERENCES

1. HANSON, ALBERT H. *The process of planning: A study of India's Five Year Plans, 1950–1964.* London: Oxford University Press, 1966.
2. LEWIS, W. ARTHUR. *Development planning: The essentials of economic policy.* New York: Harper & Row, 1966.
3. MAHALANOBIS, PRASANTA CHANDRA. *Talks on planning.* Bombay: Asia and Calcutta, Statistical Publishing Society; New York: Asia Publishing House, 1961.
4. PERIASAMY, PALANI G. *Government intervention in the factor and product markets: 1947–1970: An economic analysis of Indian case.* Unpublished Ph. D. Dissertation, University of Pittsburgh, 1972.

Planning in Europe. Edited by JACK HAYWARD AND OLGA A. NARKIEWICZ, New York: St. Martin's Press, 1978. Pp. 199. $18.95. *JEL 78–0950*

This book results from a preparatory meeting of some 25 specialists in planning from Eastern and Western Europe, who discussed

analytical problems of conducting planning studies. The papers are arranged in an order that gives priority to economic and financial planning, followed by industrial and administrative planning, and social and spatial aspects of planning. The papers generally support the view that a large measure of planning is not only desirable but indispensable in European conditions.

The Western European papers draw predominantly from French and British experience. According to the preface, France has attained an impressive degree of success in the "perilous" venture of planning, while Great Britain has more to teach from its misadventures than from its attainments. In his conclusion, however, Jacques Leruez raises some interesting questions as to future developments in both countries. Will not the newly-found North Sea oil make British macroeconomic policy easier, ending the stop-and-go policies that have created problems for their planners? On the other hand, hasn't the French economy, since the early seventies, entered into a stop-and-go phase that will eventually destroy its earlier dynamism? And, finally, can national planning survive in countries that are part of an open economic system affected by floating exchange rates and the multinational corporations and dominated by the United States economy—still the most powerful and also the most unplanned of all?

Although planners from Eastern Europe participated in the symposium, the final product shows little evidence of their wishing to be associated with the publication. Outside of Michael Kaser's contribution on financial planning in Eastern Europe—which seems to be virtually unrelated to the remainder of the book, since it focuses primarily on the U.S.S.R.—there is little that this reviewer could find to commend, or even support the claim that the Hungarian and Polish reforms may point the way for developments in other Eastern European countries.

The entire volume assumes a similar seriousness of problems within both the EEC and COMECON, problems forcing both blocs to consider all-European planning. The capitalist countries are beset with unemployment problems so that Western European social planners are discussing primarily "permissible" levels of unemployment and even building unemployment into their long-term projections. The socialist countries are worried by the alleged slowdown in their growth rates, despite the fact that they have grown faster than Western Europe.

While it is not difficult to discern the usefulness of the Eastern Bloc in mitigating Western realization or sales problems, it is not so easy to forsee any significant advantages for the COMECON countries to link their fortunes to a drifting ship. In fact, it is the countries that have tended to open up their economies to international market forces—Poland and Hungary—which are currently suffering the most as a result of their inability to penetrate Western European and United States protected markets. As a consequence, they are forced to borrow from Western bankers at premium interest rates and consider such ineffectual solutions as further price reforms and convertibility.

In Czechoslovakia, on the other hand, where their "economic reforms [point] in the direction of the Western-style economy came to a disastrous halt with Soviet military intervention" (p. 21–22), the economic record for the past decade is far more impressive than it is in the more market-oriented Eastern European countries. And it is certainly likely that at least the Soviet growth rate for the second half of the seventies—as a result of the improved terms of trade coming from OPEC—will exceed that of the first half. Intra-bloc division of labor seems to be proceeding more smoothly in the fully employed COMECON countries than it is in the EEC, which are increasingly subject to unemployment and protectionism stemming from "butter mountains" and "wine lakes."

There are a number of tendentious comments throughout this thin volume. For example, is it really true that the 5th Five-Year Plan in France called for increasing unemployment and that this led to the 1968 "events?" Was it not rather the attempt by the planners to plow back a higher rate of investment to achieve faster growth rates for 1966–70 that was responsible for a lower rate of increase in current consumption and workers breaking out of the originally planned wage-price guidelines?

Did the British vote in favor of joining the EEC or did the actual entry into the EEC occur

despite public opinion polls showing a majority to be opposed to joining the Common Market—and thereby paying higher prices for consumers goods via a value-added tax? Unlike Norway (which rejected entry) and Denmark where referenda were held before the decision was made, the British waited over two years before a referendum accepted a *fait accompli.*

Just who is the "cynical observer" (cited by Olga Narkiewicz [p. 180]) who might comment that the wholesale arrest and subsequent dismissals of a large work force in many Polish factories after the 1976 food price riots were related to the urgent need to improve productivity in a state where overmanning is notorious and it is difficult to dismiss employees.

And who would care to defend the proposition that "a flexible economy should be capable of keeping the size of the population down to a level which would ensure full employment?" (p. 187). Is it really too many people that is causing unemployment? Or is it the advanced capitalist economy that apparently needs some unemployment to increase its "competitiveness" in world markets?

Considering that this little book was written by planners, there is very little evidence that the organizers of the symposium and book were practicing their craft. Let us at least hope that the future fate of Europe doesn't depend on such unfocused thinking.

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130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

China's economy: A basic guide. By CHRISTOPHER HOWE. New York: Basic Books, 1978. Pp. xxxvii, 248. $16.00. *JEL 78–0962*

Economic growth and distribution in China. By NICHOLAS R. LARDY. Cambridge; New York and Melbourne: Cambridge University Press. 1978. Pp. x, 244. $18.95. *JEL 79–0086*

These two books on the Chinese economy come at an opportune time because the recent establishment of normal diplomatic relations between the United States and China has heightened interest in what is going on in China. These books give us the benefit of dedicated scholarship and a great deal of skill in making the most out of data, which were almost nonexistent from 1960 to 1971 and rather sketchy thereafter. As the subtitle indicates, Mr. Howe, of the University of London, sets himself the task of reducing "our knowledge of the Chinese economy to manageable proportions" and to presenting it in a way that can be understood by interested people with no specialized knowledge. Mr. Lardy of Yale University concentrates primarily on the pattern of economic growth as it relates to regional inequalities of income with some reference to other policies followed to reduce income disparities.

Howe reviews the highlights of the Chinese economy since 1949. Succeeding chapters proceed to tell us about population and labor force, organization and planning, agriculture, industry, foreign trade, and living standards. A chronology of events and the main sources on the Chinese economy are two of useful appendices. Howe's approach to the data is incisive, thorough, and judicious. His book is indeed an excellent guide to the Chinese economy.

With only the 1953 census as a benchmark, no one knows what the population of China is. Official Chinese statements presented by Howe indicate a level of population in 1974 of 868 million, at least 50 million people less than John S. Aird's estimates, which represent Washington's view. Howe basically accepts the Department of Commerce estimates, but reduces them on the basis that the Great Depression of 1959–61 must have led to no increase in population in 1961 and 1962, and comes up with an estimate for 1975 of 901 million—an average annual rate of growth since 1949 of 2.0 percent. From 1952 to 1974 per capita consumption is estimated to have increased by an average annual rate of 1.66 percent, with per capita basic foodstuffs increasing by 0.56 percent and per capita housing not increasing at all. The biggest gains are 6 percent rates for consumer goods other than textiles and for health, education, and other government provided services. Howe's estimates imply that the real standard of living in 1974 was 46 percent higher than it was in 1952.

Howe considers the growth of agricultural output to be considerable in view of the fact that increases must come in higher yields and

not by bringing more land under cultivation. He sees the emergence of a scientific outlook on the part of hundreds of millions of peasants as the crucial problem for long-term progress. The growth of industry has been rapid, but Howe considers that serious problems are being encountered in textiles, coal, and steel. Foreign trade, after ten years of isolation, is developing with a new emphasis on imports of machinery and equipment from Western countries and Japan. In spite of expanding exports of oil and manufactures other than textiles, rising exports of agricultural products are judged to be needed if this new trend is to continue.

Lardy in his book expresses the belief that a centrally-planned system for an underdeveloped country has intrinsic advantages over a market-oriented system in securing a high rate of saving and investment, in allocating resources into heavy industry, and in the Chinese case, carrying out policies that shift investment and the growth of industry away from Shanghai, Manchuria, and the coastal regions toward the interior—policies pursued both for defense and equity reasons. In 1958 and in later years the planning system has gone through considerable decentralization of planning to the provincial (and autonomous municipality) level, and this trend could put local governments in a position to reverse these policies with high per capita industrial regions using their newfound powers to increase their rate of growth at the expense of lower per capita industrial regions.

Lardy finds that the decentralization of planning that took place did not change the ability of the central government to impose a unified tax system on local governments and to set limits on local budget expenditures and that the center continued to have at its control substantial surpluses from high tax-collection provinces and municipalities and the ability to pay some subsidies to low tax-collection provinces. Furthermore, the central industrial ministries retained considerable power on a dual basis over regional industrial production and investment. As a final test he uses data arrived at jointly with Robert M. Field and John Philip Emerson to show that in the 1957 to 1974 time span after decentralization (when compared to the 1952–57 period before decentralization) rates of growth in provincial industrial output show no indication that higher per capita industrial output provinces (municipalities) grew at faster rates than lower per capita industrial regions.

Howe points out that from 1952 to 1972 the preponderance of China's industry in Shanghai, Tientsin, and Manchuria has shifted, so that the share of total industrial output for the regions of Manchuria and East China has been reduced, but the big change is in a large increase in the share concentrated in North China. Lardy's figures for 1974 compared to 1952 bear this out with a reduction in Manchuria's share from 22 to 20 percent, a reduction for East China from 32 to 26 percent, with both reductions mostly offset by a large increase in North China's share from 23 to 30 percent. There was no change in the share for Central and the South China regions, a slight increase for the Northwest, and a slight decrease for the Southwest.

But Lardy's thesis is that without central planning regional disparities would have increased. The Communist policies encouraging small-scale industry since 1958 must have acted to reduce regional disparities in its very nature. But Lardy's view argues for their effectiveness with respect to large-scale industry as well. He argues that more industrialized regions had sugnificant head-start advantages: lower incremental capital-output ratios, better infrastructure, larger pools of skilled manpower, and greater access to modern technology, along with substantial economies of scale and some locational advantages.

There is a basic presumption in this view that equality of industrial output per capita is desirable in itself. But an industrial center is not producing output simply for its own consumption, and to the extent it is producing at lower cost for the very reasons Lardy mentions, a good deal of the benefit goes to other regions. For example, Shanghai in 1952 with 1 percent of the population was producing 35 percent of the national production of cotton yarn and 27 percent of the cotton cloth produced, but a large number of people throughout many regions were using this output, and most of them would have gotten less cloth or paid more if they had had to rely on other sources for cotton textiles. This does not mean

that the problem of industrial development in the China hinterland is of no consequence, but it does mean that a per capita industrial output measure grossly overstates regional disparities in terms of real income levels.

Furthermore, in the case of China the pattern of industrial concentration in Shanghai, coastal cities, and in Manchuria was not due to market tendencies relevant to a modern nation state. Some two-thirds of modern industry in pre-Communist China was foreign-owned. Foreign investment naturally concentrated in the Treaty port areas under extraterritoriality. Manchuria is an even more special case because it received enormous amounts of Japanese investment in developing that region as an intrinsic part of the Japanese Empire.

When the Communist government came to power in 1949, two things took place: (1) a strong central government was established for all mainland China for the first time in centuries, and (2) a government proceeded to put the economy under state control with a system of central planning. Under any nationalist-minded government, the unique role of foreign investment would have ended in one way or another. The heavy industry potential of Manchuria would have been shifted away from Japan toward a market for this output on the mainland. A vastly improved railroad system in north China under the Japanese, integrated with the extensive Manchurian rail system, plus the concentration of coal, iron ore, and petroleum in Manchuria, the North, and the Northwest would have resulted in just such a regional shift as developed. In the Chinese Communist case the special relation with the Soviet Union in the 1950's was an extra stimulus. Under a govenment like the Meiji government that emerged in Japan almost a century earlier, one can conjecture that large textile companies would not automatically pour investment into Shanghai and that light industry would have spread up the Yangtze and along the coast to take advantage of cheap ocean transportation. An Inland Development Bank with strong government support would have concentrated on building up the Southwest and other regions if only to maintain effective central control in those regions. Lardy's thesis gives too much weight to the role of central planning under the conditions that prevailed from 1950 to 1975.

In summary, Lardy brings in other Communist policies aimed at greater equality of income—a change in the terms of trade between rural and urban areas favoring the rural population and tight control over wages. Lardy puts the trade-off for reducing income disparity as one between equity and growth. The social trade-off is much more important. Enforcing greater equality of income through a system of tight controls over the assignment of labor with no one able to change jobs or be selected for college without prior approval and periodic sending-down of urban people to the countryside with few rural people allowed to move to the cities involve an enormous trade-off between individual freedom from state control and greater equality of income. No other socialist system has gone as far!

Lardy believes that the central planning system was able to reduce income disparities but also increased state profits for investment and therefore maintained a high rate of growth. Actually the U.S. State Department has estimated that the total planetary product of all underdeveloped countries other than China, increased from 1950 to 1975 at an average annual rate of between 5 and 6 percent—almost exactly the same as the rate of growth estimated for China over that period. China's rate of growth is not higher than for underdeveloped countries in general, with a huge variation in the degree of central planning. Implicitly the comparison is always with India, which also has a large population; but as Lardy points out, India has some peculiarly stubborn limitations on growth not present in China.

In any event, the rate of growth is no measure of the adequacy of central planning. If planners decide to improve the housing situation or to favor consumption as against heavy industry, the growth rate will go down. Even within industry itself there is no reason to think that planners setting the demand for an undesirable pattern of industrial development are going to encounter more bottlenecks or other limitations on growth than in pursuing a desirable pattern of industrial development.

My own guess is that China's progress in agri-

culture has been satisfactory; but this is the very place where traditional incentives are operating, where prices still have an important role, where the unit of decision-making for day-to-day production has been decentralized to the lowest possible level. High priorities for irrigation, fertilizer, and farm equipment have played important roles also, but the pressure of population on the food supply will ensure the necessary priorities in the future. The real problem is central planning for the growing industrial sectors, and here my guess is that central planning is in disarray. The present trend is toward recentralizing planning away from the kind of decentralization involved in revolutionary committees, but moving in this direction is simply reestablishing a Stalinist system with all the problems now found in the Soviet model. New institutional arrangements are needed, and little progress has been made in the past fifteen years.

The post-Maoist leadership is now putting emphasis on a rapid absorption of the latest technology. But this can only be achieved by setting up new patterns of motivation for Chinese managers and technicians and by establishing an ideological framework where skilled people have meaningful roles and responsibilities. These two books are worth reading to understand what has been happening and as a background for the far-reaching changes required to deal with these key problems.

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The second slump: A Marxist analysis of recession in the seventies. By ERNEST MANDEL. Translated from the German by JON ROTHSCHILD. London: NLB; distributed by Schocken Books, New York, [1977] 1978. Pp. 212. $12.95. *JEL 79-0396*

The original title of Ernest Mandel's most recent book is *Ende der Krise oder Krise ohne Ende?* Its translation title, *The Second Slump,* is sub-optimal. (*Endless Recession?* would be my candidate.) However, the sub-title, "A Marxist Analysis of Recession in the Seventies" makes everything clear. The contents constitute a Fourth International (Marxist-Leninist-Trotskyite) analysis of the 1973–76 downturn with its semi-recovery, and the implications of these events for the future of capitalism and imperialism. (I cannot understand the characterization of contemporary Austria, Switzerland, or any Scandinavian state as "imperialist," but let that pass.)

A great advantage currently possessed by many dissident, particularly Marxist, writers over establishment rivals is their superior command of descriptive economics, *i.e.*, factsfactsfacts. Marx himself had, and exercised, this advantage over contemporaries so encyclopedic as even John Stuart Mill. Today's Marxist writers have this command and exercise it against all comers, at least where contestants must become and remain current in n languages and events in $n+m$ countries at a time. And among Marxist writers of my limited acquaintance, the Belgian Mandel is really superb, outdistancing such American rivals as Paul Sweezy and Harry Magdoff of *Monthly Review.* Some measure of authority inheres in anyone who simply knows and organizes so much as Mandel does about so many aspects of economic life in so many places, almost regardless of the conclusions to which they lead him.

But alas, the obverse of Mandel's comparative advantage in factsfactsfacts is comparative disadvantage in theorytheorytheory. He is a Marxist but not a Marx (and Marx once denied being a Marxist!). Mandel's analysis translates into current classroom jargon as a Marxian combination of (1) a distributional theory of inflation, with the combined demands of pressure groups (at full employment) exceeding society's total production; (2) Kalecki's "political business cycle," with recession unemployment capitalism's sadistic answer to labor, or to an LDC rising above its place; and (3) the tendency of inflation to accelerate into hyper-inflationary chaos as a condition for accomplishing anything.

But Mandel's Marxism amounts to more than mere "gussying up" the standard gobbledygook. For him, the distributional claims for labor are legitimate and those of capital are not, so that "outrageous" demands for higher real wages well beyond man-hour productivity and combined with guaranteed full employment are highly reasonable. They should therefore be met even if indeed, precisely *because*—they

require massive redistribution of income and threaten the collapse of the capitalist system.

Mandel's first and last chapters touch upon a chronic internal conflict within the Marxist camp. The topic is macrodynamic; the question is whether capitalism is more likely to collapse, or fall prey to revolution, from a falling profit rate or a tendency to overproduction. (Marx used "rate of profit" arguments against reformists, "overproduction" arguments against cartellists, and died without completing his Book of Revelations.) Mandel argues that the two routes to the revolution are lanes of the same highway. He comes close to what I call a "dilemma" or "contradiction" model, in which *no* rate of profit can eventually remain both high enough to discourage additional hoarding and low enough for purchase of sufficient output to hold the employment rate at a tolerable level. If this is indeed what Mandel means, "welcome to the club." If not, I find his treatment confusing or at least dialectical.

"Unity of theory and practice" prompts Mandel to advise the Western and Japanese working class on what to do about the series of worsening crises and weakening recoveries that he anticipates for our stagflatulent society. He would have organized labor continuously demand higher real wages, and more employment at those wages, than capital can give "within the system." He advises them not to compromise and above all not to retreat when conditions are depressed. He realizes, of course, that such tactics—class war *à l'outrance*—may lead to fascism or Stalinism, with neither of which has he the slightest sympathy. But he sees a good chance of replacing the whole System by a workers' state, just as Joe Gormley's British miners toppled the Heath Government in 1974. I, on the other hand, see this chance as negligibly small, so that Mandel's policy prescriptions seem more nearly suicidal than merely risky. That, if nothing else, makes Mandel a Trotskyite and me a something else. (I should add, however, that much of the non-Trotskyite New Left would accept much of Mandel's analysis, as I believe many French Anarchists did in 1968.)

Any American rash enough to disagree with Ernest Mandel comes under suspicion of complicity in U.S. State Department efforts to prevent Mandel from propagating his dangerous thoughts to American audiences in person. I therefore end by asserting that Mandel is neither an assassin nor a terrorist, and should not be discriminated against for American visas by reason of his views. (What Mandel calls "bureaucratic workers' states" presently treat him worse than the U.S. does, if that makes the State Department feel better!)

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Curing chronic inflation. Edited by ARTHUR M. OKUN AND GEORGE L. PERRY. Washington, D.C.: Brookings Institution, 1978. Pp. xiii, 297. $11.95, cloth; $4.95, paper. *JEL 79-0104*

Microeconomic effects of monetary policy: The fallout of severe monetary restraint. By ERVIN MILLER; with ALASDAIR LONIE. New York: St. Martin's Press, 1978. Pp. xii, 228. $17.50. *JEL 78-0978*

After more than a decade of relatively high inflation, economists remain uncertain and divided about the social cost of non-indexed inflation, the costs of lowering inflation, and the benefits of price stability. Both of the books under review take as unchallengeable truth that any monetary and fiscal program to lower inflation involves very high costs in unemployment and lost output. Both consider, and at places advocate, new types of government policies to manage or influence the economy. Both ignore or dismiss all of the work on rational expectations bearing on the costs of ending inflation.

These general similarities aside, the books are very different. *Curing Chronic Inflation* is the report of a conference on new policies to control inflation held at Brookings in April 1978. Most of the discussion is about tax-based incomes policies, so-called TIP plans. The principal objective of Professor Miller's study is "to appraise the use of severely restrictive general monetary policy, a key form of demand management, as a tool to fight inflation." He favors indicative planning of the French type, rather than the less formal Japanese type, to achieve a 2 to 3 percent unemployment rate, reduced inflation, and improvement in distributional equity. (Professor Miller is unwilling to tell us

what is an "improvement" or even what is "distributional equity.") He does tell us (1) that monetary *restraint caused inflation* and also caused unemployment; (2) that since 1969, the U.S. has not experienced demand-pull inflation except possibly during part of 1973 (p. 160), and (3) that there is "obvious starvation of the needs of the public sector in the United States" (p. 5).

The last two chapters of Miller's book, by Alasdair Lonie, dispense with Miller's polemics against economics, economists, and something called "free market ideology." Lonie describes some of the events accompanying high interest rates, inflation, and "stop-go" anti-inflation policies in the U.K.'s business and housing sectors. Lonie's standard is monetary stability of either the Friedman (money growth) or Keynesian (interest rate) variety. The U.K. fails on either standard; Lonie then tries to show that public policy caused "imbalances" and "illiquidity."

It is a pity that we do not have Professor Lonie's comment on alternative policies. While I read *Curing Chronic Inflation,* the newspapers reported daily on the strikes in Britain as the government tried to hold a 5 percent wage guideline against the workers' demands for wage increases of 20 percent or more. Would a tax on firms or a payment to workers prevent the strikes, or settle them? It seems unlikely, not only in my opinion but in the revealed opinion of Prime Minister Callaghan. The Prime Minister has resorted—can we believe it—to the most classical of all anti-inflation policies, a rise in Bank rate, to signal that his government does not intend to let the growth of the money stock be determined in the labor market.

The Brookings Conference did not produce many new ideas. Robert W. Crandall's paper is the only paper that is not about TIP. Crandall discusses the effect of government regulations and restrictions on efficiency and the price level and attempts to measure some of the costs imposed by current restrictions and standards. The paper is an interesting attempt to quantify some of these effects but, as the author is usually careful to point out, eliminating the restrictions or standards lowers the price level once-and-for-all. There is no lasting effect on inflation—defined as the maintained rate of price change. Crandall also analyzes various tax adjustments, such as the substitution of income taxes for the state sales tax, the replacement of the 1978 minimum wage with employment incentives, and the substitution of general revenue financing for recent increases in the social security tax. His discussion is marred by the failure to take account of the effects of income taxes on labor supply and the more general failure to consider the incidence of the taxes removed and the taxes imposed.

Crandall avoids the vulgar error of recommending deregulation or efficiency gains to reduce inflation. However, he lists (Table 12) the rates of price change that could be avoided if certain regulations are removed. Suppose that his estimates are correct, that all his proposals are adopted and have their full effect on the price level promptly. The annual rate of price change would fall to about zero. What happens to employment and the maintained rate of price change?

The rational expectations answer is that if market participants believed that monetary policy had changed—or had not changed—the rate of inflation would reflect that information. Relative prices would be affected by deregulation and to the extent that the excess burden of regulation falls on employment, equilibrium (or natural) employment would change. But the maintained rate of price change would be dominated by the actual and anticipated rates of change of monetary and fiscal variables. And, if there is uncertainty about the durability of the government's commitment to non-inflationary policies, the rates of price and wage change would not adjust fully to the reduced rates of monetary and fiscal expansion. Unemployment would remain above the new "natural" rate until participants in labor, output, securities, and money markets decide whether the change in monetary and fiscal policy is permanent or transitory.

The idea that inflation is mainly a "cost-push" or "wage-wage" process is inconsistent with much of the current research in macroeconomics. The cost-push view is so well accepted by many of the participants at the conference, however, that it is not discussed thoroughly. One consequence is that there is no analysis of steps to reduce the cost of slow-

ing inflation by adopting policies that affect demand.

A policy of announcing paths for monetary and fiscal variables, and policies to increase the credibility of the announced paths, would more fully reflect current research in macroeconomics. A policy of this kind has not been tried, to my knowledge, so it is "new" and, therefore, within the scope of the conference. It is unfortunate that the organizers did not consider *any* institutional or procedural changes to reduce the costs of achieving and maintaining stable, non-inflationary rates of change in the stocks of financial assets. Neglect of supplements or alternatives to TIP is surprising in view of Arthur Okun's belief that "recession will slow inflation, but only at the absurd cost in production of $200 billion per point" (p. 284).

The source of this extraordinary estimate—nearly 2 trillion (nominal) dollars of lost output to restore price stability—is George Perry's latest estimate of the trade-off between unemployment and the rate of wage change. In view of the subject matter of the conference, one expects taxes, tax rates, or after-tax wages to enter the equation, but they do not. Unemployment compensation does not affect the trade-off. Perhaps these omissions and the neglect of anticipations explain why Perry's predictions of the rate of wage change are generally too low.[1]

Perry offers no test of TIP and no evidence that TIP works. He conjectures that TIP shifts the Phillips curve by lowering the rate of wage change. This, in turn, reduces the rate of price change, and a lower rate of price and/or wage change lowers the demand for wage increases without causing unemployment. There is no mention of the possibility that a temporary tax on wages can induce workers to alter the distribution of time between labor and leisure or that firms facing lower after-tax profits would reallocate production. Nowhere in the volume is there consideration of intertemporal reallocation of production in response to workers and employer anticipations of the real returns in different periods. The nearest Perry comes to a discussion of anticipations is a non-informative comparison of union contracts to see whether anticipations are "forward looking" or "backward looking." Two striking features of the comparison are the absence of attempts (1) to separate one-time shocks to the price level from changes in the maintained rate of change and (2) to formulate a hypothesis about anticipations. Perry dismisses the omission succinctly: "If inflation responds weakly to actual unemployment, why should expected inflation respond so strongly to expected unemployment?" (p. 51).

The aggregate Phillips curve says nothing about the effect of TIP applied to a few large firms. For the years 1959–76, Perry estimates Phillips curves for about two dozen industries. There is very little evidence of a reliable relation. The standard errors of estimate are often 40 percent of the average rates of wage change.

The estimated trade-off from the old-fashioned Phillips curve is the only basis for the estimate that it takes $2 trillion of nominal output loss, and more than 20 years, to bring inflation from 10 percent to zero. Perry never mentions experience in Germany, Switzerland, and Japan, where inflation was brought to relatively low levels in three to four years without recession or the experience in Britain and Italy where inflation was brought from 25 percent to about 10 percent in two to three years. In 1975 and 1976, inflation in the United States was reduced to about 5 percent, while output rose. Perry's wage-wage inflation equation has relatively large errors in both years.

Neither Perry, nor the other authors, ask whether the loss in output is permanent or temporary. There is no discussion of the different effects of penalty and reward TIP plans on the government budget and, thus, on anticipations of monetary and fiscal policy. Apparently, the changes from fixed to fluctuating exchange rates had no effect worth mentioning on the processes generating anticipated or actual rates of price change. Previous Brookings conferences have discussed, at length, the effect of import prices on domestic prices during

[1] Only 9 of the 72 reported errors for various equations in Table 6 are overestimates and 6 of the 9 overestimates are in 1976, a year in which there is substantial reduction in the rate of wage change. In his comment on Perry's paper, Martin Neil Baily points out that his version of Perry's preferred equation makes a cumulative error of 16 percent for 1971–77.

the sample period used to estimate the trade-off, but this volume ignores the topic.

Laurence S. Seidman argues that TIP succeeds only if it is accompanied by reductions in monetary and fiscal stimulus. This view is repeated by others. One should expect, therefore, to find an estimate of the marginal contribution TIP can make as part of a comprehensive program. No estimate of this kind is attempted. The closest we come is a hypothetical example, constructed by Seidman, which concludes that the parameters "are not known and at best can only be imperfectly estimated." Seidman is optimistic, however. His simulation shows that inflation is reduced from 6 percent to 1 percent in four years while the unemployment rate is reduced from 6.0 to 4.6 percent.

Seidman favors a permanent TIP. In his hypothetical example, the "natural" rate of unemployment eventually falls to 4 percent. His calculation assumes that velocity is a constant unaffected by the anticipated or actual rate of inflation and that the ratio of prices to unit labor costs is constant also. Later in the volume, Albert Rees presents data denying constancy of the mark-up.

By using the quantity equation as a spending relation, we can find the implications of Seidman's simulation for spending. Seidman's assumption of constant velocity implies that the rate of growth of real income (and expenditure) rises above the "normal" long-term rate when money growth falls and remains above normal growth during the seven-year adjustment of money and money wages to a noninflationary path. There is no recession. It is, of course, sub-optimal to let the economy reach equilibrium. Accelerated deflation would be better, since on Seidman's assumptions, income and spending would grow faster than normal.

Seidman's empirical wage equation differs substantially from Perry's. Seidman makes the rate of wage change depend on the lagged rate of change, on the deviation from trend of profit per unit of equity, and he tries several measures of the unemployment rate. The unemployment rate has relatively low statistical significance and not much effect. The profit measure implies that an effective way to lower the rate of wage change is to increase equity or reduce reported profits. Taxes do not affect wages except by changing after-tax profits. In view of the focus of the conference, one might have expected some comparison of the effects of unemployment and anticipated inflation on the rates of change of disposable and earned income (wages) or some attempt to distinguish between the effects of temporary and permanent tax cuts on the rate of change of wages.

Seidman recognizes that if workers accept a tax cut in exchange for a reduction in their wage rate, they lower the base on which future wage increases are built. If the tax cut just compensates for the reduction in wages, TIP causes a permanent loss in wage level. To avoid the loss, the reduction in taxes must be permanent or, if temporary, it must be large enough to compensate for the lower wage base in later years.

Seidman's paper contains useful information about the differences between penalty and reward TIP's. His attempts to combine micro and macro analyses are in the right direction, although the conclusions he reaches are flawed by the failure to adjust for responses to a permanent TIP. These include the effect of taxes on investment and productivity growth, on the government budget, and on incentives to work or remain idle.

Larry L. Dildine and Emil M. Sunley present a thorough and informative discussion of many of the administrative difficulties that can be anticipated under the various TIP plans that have been proposed. Dildine and Sunley believe that the problems are less severe if TIP is applied only to wage payments made by large firms. In their judgment, any TIP for prices involves administrative costs much larger than anticipated benefits.

Joseph A. Pechman suggests that Dildine and Sunley's excellent summary understates the costs of administration. Like many others at the conference, he offered the opinion that a TIP for wages, but not prices, is impractical. Pechman (and others) noted that the costs of TIP include uncertainty about the rules and the resources used in litigation to resolve disputes. Several of the participants used the high costs of administering an excess profits tax to indicate the costs that would be incurred.

Albert Rees's paper is mainly concerned with the reasons unions and firms oppose TIPs.

From his experience with labor unions and cost-of-living councils, he draws some conclusions about what "unions" like and dislike and adds new items to the list of administrative problems. He, too, accepts the wage-push theory, but rejects the constant mark-up. This makes the theory incomplete or empty.

Rees believes that guidelines and TIP programs are inferior to controls as a means of restraining wages and prices. One reason, according to Rees, is that controls are more effective than guidelines in preventing strikes. He cites the experience with controls in 1972 and 1973, but makes no mention of the real wage anticipations of employers and employees or differences between these anticipations and the real wages implied by guideposts or controls. Rees's judgment is not entirely consistent with data on strikes. Even under the conditions of World War II, workers went on strike to achieve larger wage increases than wage controls permitted. Seven percent of the workers were involved in strikes in 1943 and 1944. This is a much larger percentage than in most years of the 1950's. The fact that the strikes did not last long is not very informative given the size of the real wage increases workers received. Contrary to Rees, limited experience with controls and guidelines in the U.K. and the U.S. suggests that workers are willing to strike if they anticipate sufficient gain.

A symposium featuring Gardner Ackley, Alan S. Greenspan, and Franco Modigliani, with comments by Okun and Henry C. Wallich, repeats many of the points made earlier. Ackley favors selective incomes policies but finds TIP too cumbersome. He believes that Congress, not the president, should set price and wage standards applicable to a few firms. Greenspan opposes TIP because of its costs and because he believes that the likely failure will lead to controls administered by the bureaucracy created to enforce TIP. Modigliani remarks that TIP is less appealing than he believed, but he offers his own plan for a TIP limited to 2000 firms and supplemented by an excess profits tax. Two bureaucracies must be better than one.

The participants failed to agree on most of the details. As Abba Lerner said, "The discussion at this conference has convinced me that the objections to the various TIPs are much more serious than I had supposed . . ." (p. 255). Lerner also offered his own scheme. He would have the government set the national average rate of wage increase equal to the growth of average product, say 3 percent a year. The government would issue permits that allow the labor force to be hired at the stated rate of wage increase. The permits would be negotiable, so firms could buy or sell permits and raise individual wages in response to market forces. As Lerner points out, the permits are negotiable ration coupons that permit holders to increase wages by a fixed number of dollars. Firms that wish to grant large wage increases bid for permits from other firms. Lerner does not fully explain how wages paid by governments would be determined.

The proposal lowers the anticipated average rate of wage increase and removes the heritage of past inflation. Once the proposal is in force, there should be no discrepancy between the anticipated and actual rate of wage increase, and if the permitted average rate of wage increase is equal to the average rate of productivity growth, one condition for price stability is established. Lerner's proposal, however, would delay labor market adjustment, since a firm would choose to sell permits and let workers quit rather than fire workers and surrender permits to the government. Further, it is not clear what Lerner proposes to do about deferred compensation, fringe benefits, and all the other issues about the measurement of wages raised elsewhere in the volume.

Lerner believes his proposal is a less costly means of lowering inflation than a law requiring the growth rate of money to be held within one or two percentage points of the non-inflationary rate of monetary growth. Reductions in aggregate spending, he believes lower inflation only by causing "catastrophic depression and severe unemployment" (p. 257). For Lerner, and others, unemployment is entirely waste. There is a "flaw" in the price system. The rate of change of money wages does not respond to changes in demand.

The idea that there is a flaw in the price system is a recurrent theme in the volume and more generally in the literature on guideposts and controls. Slow adjustment of money wages, or their rate of change, is used as evidence of the flaw.

An alternative interpretation of gradual or slow wage adjustment suggests that the workers' inference problem has been neglected and that it is the Keynesian interpretation that is flawed. Suppose workers in cyclical industries anticipate spells of layoff, but are uncertain about the timing and duration of particular spells. Suppose, further, that governments are expected to increase spending whenever measured unemployment rates increase. Under these conditions workers have incentives to delay money wage reductions and to remain idle, at least for a time, if they believe that the change in the demand for their services is temporary. Cutting wages promptly in response to every change in demand is not a rational response to a layoff that is regarded as temporary.

If workers in cyclical industries anticipate brief, recurring spells of unemployment, but are uncertain about timing and duration, slow adjustment of money wages in response to unemployment is not evidence of a flaw in the price system. *Curing Chronic Inflation* never considers economic issues of this kind and, therefore, fails to make a defensible economic argument for TIP. No evidence of the effectiveness of tax incentives, penalty taxes, or guideposts is offered, and there is no attempt to compare the costs and effectiveness of anti-inflation policies in countries that have used or avoided guidelines, controls, or some type of social contract.

Readers who believe that the proponents of TIP do not have a well designed plan, that all TIP plans are difficult to administer, and that their effect on wages and prices is arbitrary, capricious, and inequitable will find supporting evidence in this volume. Although the editors, and several participants, conclude that, despite the costs, some TIP should be tried, readers will be less certain.

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[PHILLIPS, A. W. H.] *Stability and inflation: A volume of essays to honour the memory of A. W. H. Phillips.* Edited by A. R. BERGSTROM *et al.* New York; Chichester, England; Brisbane and Toronto: Wiley for the New Zealand Association of Economists, 1978. Pp. xvii, 323. $40.00 *JEL 78-0980*

This is a collection of essays to honor the late Professor A. W. H. Phillips. Most of the essays were assembled as a *Festschrift* to mark Bill Phillips's sixtieth birthday in November 1974.

Phillips's active professional life was relatively short; his professional reputation is based on a dozen papers over a period of 18 years. A crippling stroke in 1969 led to his premature retirement from a chair at the Australian National University, though he assisted the Economics Department, University of Auckland, in his native New Zealand from 1973 until his death in March 1975. In terms of distinction, training, and breadth of interest, Phillips was a very unusual economist. Conrad Blyth has provided a brief biographical note on Phillips's colorful life as an introduction.

The papers in *Stability and Inflation* are grouped into three parts. The first two parts—on the Phillips curve and on models of inflation and stabilization policies, respectively—contain five papers each, while the last part contains half a dozen papers on econometric theory for dynamic models, including a previously unpublished 1966 paper of Phillips.

Of the five papers on the Phillips curve, of most general interest is Richard G. Lipsey's informative survey of the place of the Phillips curve in macroeconomic models. Lipsey shows that, even in its crudest form, the Phillips curve represented a great advance over the then prevailing dichotomized Keynesian macro models where aggregate price changes were unresponsive to changes in economic activity—until full employment was reached when any further expansion in money income was channelled wholly into price increases. Lipsey provides a succinct overview of the two major theoretical interpretations of the Phillips curve. First Phillips's own rationale, later elaborated and modified by Lipsey. They viewed the Phillips curve as essentially an aggregate phenomenon, produced by relatively separate micro labor markets with a wide range of excess demand conditions existing simultaneously. Changes in the *aggregate* level of demand can then give rise to different output and price responses within these micro markets, thus allowing variable aggregate responses in the economy as a whole. While Lipsey presented a crude search model of unemploy-

ment in his explanation of the Phillips curve, this interpretation is more closely associated with the Phelps-Mortensen search models and with Friedman's expectations-augmented Phillips curve and the related natural rate hypothesis. Lipsey's overview of this whole literature will become essential reading for those looking for a broad survey of the issues involved, of the implications of the rival hypotheses, and for research workers in this area.

Building on the work of Lipsey and others, William Baumol shows that it is logically possible to have a long-run (non-vertical) Phillips curve, given that there is an assymetry in the upward and downward price (and wage) reactions to levels of excess supply and demand in the separate industries. It is thus a rigorous extension of Phillips's own interpretation of his famous curve. This demonstration does not require either a money illusion or any other long-run "contradiction" such as a non-fulfilment of certain price expectations.

John Pitchford presents three simple models with varying cost and demand influences on inflation. In the most aggregative he shows that, if income claims are inconsistent, either excess supply (*i.e.*, unemployment) must be established to achieve price stability or—at zero excess demand—there will be a minimum positive rate of price increase. Variations on this theme are developed in his other models.

Papers in the second part of the book are a mixed bunch, including an empirical study of hyperinflation in Nationalist China by C. G. F. Simkin which shows, among other things, the very great short-run variability in inflation rates at times of hyperinflation. It suggests that—at least at such times—the concept of a "fully anticipated rate of inflation" is likely to remain an academic thought experiment rather than an approximation to reality.

In another paper in this section, Bergstrom uses the Bergstrom-Wymer econometric model of the United Kingdom to show that the attempt to use monetary policy for the short-term regulation of output and employment can be destabilizing—not only in artificial models with unrealistic parameters, but also in a model of a real economy.

Steven J. Turnovsky contributes a paper on the optimal stabilization policy of a small open economy—an appropriate topic in view of Phillips's pioneering work on stabilization policy 30 years earlier. While Turnovsky's results include and confirm those obtained earlier by William Poole for a closed economy, he shows that in some cases conflicts between domestic and external stability can arise and that the optimal instrument for minimizing the instability of foreign reserves may be the worst for maintaining the stability of domestic income.

The most important paper in this section is Turnovsky and Pitchford's model of the inflationary process—embodying both inflationary expectations and competing income claims by workers and entrepreneurs. The rate of inflation and the distribution of income then become jointly determined variables, to be analyzed simultaneously. Turnovsky and Pitchford analyze the conditions that give rise to (a) a natural rate of unemployment or (b) a steady-state relationship between price (and wage) movements and excess demand having both a positive and a finite slope or (c) an unstable inflationary situation. This is again, a paper that sheds a great deal of light on the contentious issues that have divided the profession recently.

The papers in the third part can be linked by reference to the autoregressive, moving average models with exogenous variables (ARMAX), which econometric theorists have studied seriously in recent years. Phillips's paper (ch. 11) set in train much of the subsequent work on serially-correlated disturbances of this type. The paper provided a major impetus because it gave, in matrix form, an explicit expression for the likelihood function, which allowed proper consideration of pre-period values of variables and disturbances. Phillips's major contribution in the paper was to introduce a way of handling the moving average process and then to use this approach to obtain efficient estimates.

Whereas Phillips, with economic applications in mind, always dealt with an ARMAX model (*i.e.*, exogenous variables included), E. J. Hannan's chapter deals with the properties of ARMA models where exogenous variables are excluded. Hannan's chapter obtains properties for estimations derived from asymptotically equivalent expressions for the likelihood of ARMA models and also establishes that these properties hold for a regression model with ARMA disturbances.

A. R. Pagan and R. P. Byron bring together estimation procedures for the dynamic econometric model for serially-correlated disturbances generated by the autoregressive process (AR) and the moving average process (MA). The expression for the likelihood first given in Phillips's paper is considered in two ways. Either the pre-period values are to be treated as fixed parameters to be estimated or they are treated as random variables. Using this dichotomy, the authors illustrate how well-known estimation procedures, which handle serially-correlated disturbances in single equations, seemingly unrelated regression systems, and simultaneous equation systems, can be seen to arise from different treatment of the preperiod values.

P. C. B. Phillips takes a continuous time system of differential equations where all the observed variables are flows, *i.e.*, the time integral of a continuous variable over the observation period. The system is converted into a restricted ARMA model in the observed flow variables and approximate iterative estimation procedures are given. The bias associated with these estimates goes to zero with the sampling interval.

A. J. Preston provides a review of the concepts of model and structure with careful reference to the early discussions in the Cowles Foundation monographs. The author's major emphasis is on model identification—the choice of a model from a class of equivalent models—and he strongly questions the wisdom of accepting a given model as the starting point for an investigation of identification.

Consideration of the most general model, the ARMAX (p, q, r) focuses on how Hannan has provided conditions that result in the model being structurally identified and which also mean that there exists no other model with the same final form satisfying these conditions ("uniqueness"). Preston claims however, that Hannan's greatest common divisor (g.c.d.) condition is the only one of the conditions suggested that should be regarded as model-identifying—where he asserts a condition is only model-identifying if the condition removes models that either fail to satisfy *a priori* constraints or generate identical predictions under changed structure.

All round, this collection of papers will be found useful for both macroeconomists and econometricians. It is a fitting tribute to Bill Phillips's work and his stature in the profession.

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Inflation, stock price and housing cost: Empirical studies. By KILMAN SHIN. Fairfax, Va.: George Mason University, Center for Economic Analysis, 1978. Pp. xi, 368. $19.00. *JEL 78-0983*

Shin observes that people are alarmed by a sudden realization of the high cost of natural resources and concludes that an economic pessimism is apparently spreading throughout the world in both capitalistic and socialistic economies. The foremost problem areas facing modern societies include inflation, unemployment, the ever increasing burden of taxes, a housing shortage, pollution, crime, and urban congestion. The articles in the book, some of which represent more than 10 years of empirical research, for the most part, provide both unique and in-depth analyses of current economic problems. The collection of papers can be divided into two sections. The first part consists of six chapters related to inflation, while the second section includes a variety of economic topics.

Chapter 1 is a review of specific inflation and unemployment models (*i.e.*, the Phillips hypothesis, the monetarists' argument, and the Keynes-Harrod-Domar type growth rate inflation theory). The author's efforts to see if such theories could explain the international differences in the rates of inflation and unemployment produced regression results that are of only limited value.

The second chapter includes numerous regression equations for both a simple monetary portfolio model and an income model. The latter was derived from the traditional present value approach. While a high rate of inflation was found to suppress stock prices, it should be cautiously emphasized that Shin found that the income model regression results had higher $\bar{R}^2$ values than the monetary model. Given the restrictive and lengthy assumption of Shin's monetary model, perhaps his empirical analysis should at least be classified with such works as Merton H. Miller [2, 1972] and James E. Pesando [3, 1974].

The provocative analyses included in chapters 3 through 5 discuss international compari-

sons of interest rates and inflation, the tax burden and inflation, and the investment ratio and inflation. On the question of the tax burden and inflation, Shin does "not reject the conclusion of Jørgen R. Lotz and E. R. Morss that '. . . the tax ratio of high-income countries is more an index of political preferences for the appropriate size of the government's role than the index of taxable capacity'" (p. 110) (see [1, 1967, p. 487]). Subsequent to a test of some variables that may explain differences in the international investment ratio, the author provides the reader with only illusionary policy implications in the guise of policy variables.

Chapter 6 presents an in-depth analysis of inflation in South Korea and, although of limited reader interest, the author provides the regression results for tests of monetary theories for a tumultuous time period. The Keynesian model with a changing supply of money is examined in chapter 7. In chapter 8, the author provides a separate analysis of the tax burden for each state in the United States and an excellent presentation of both the tax effort and feasible policy-induced income redistribution outcomes.

The research into housing costs and home ownership rates in chapter 9 fails to lead to a tenable solution of housing problems. Chapter 10 shifts to the derivation of the cumulative voting formula and how it can be extended to cases where there are no independent groups. The practical application of the formula is currently limited to the simple case of corporate elections, although a cumulative voting formula may deserve serious study.

The discussion of the cost of human capital concentrates on the cost of rearing children as a component of total personal saving and examines the argument that personal saving should include not only expenditures on financial assets, residential houses, and consumer durable goods, but also medical and educational expenditures and the cost of rearing children. The implications of the newly-defined, total personal saving remain to be developed. Thus, the reader must agree with Shin's observation that more comprehensive new economic theories must be forthcoming. In chapter 12, Shin presents a general model for evaluating the short-run and long-term comparative monetary cost advantages for home ownership and apartment renting. There are, however, relatively few studies on cost comparisons.

While this book is not intended for use as either an undergraduate or graduate text, selected chapters would be a useful addition to graduate level reading lists having an international flair. As a ranked supplement to applicable reading lists, the rankings for most of the topics would range from medium to high. In the final analysis, Shin has made a valuable contribution to the understanding of selected contemporary economic problems, most of which are of truly genuine worldwide interest.

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REFERENCES

1. LOTZ, JØRGEN R. AND MORSS, E. R. "Measuring 'Tax Effort' in Developing Countries," *IMF Staff Papers*, Nov. 1967, *14*, pp. 478–97.
2. MILLER, MERTON H. "Discussion," *J. Finance, Papers and Proceedings*, May 1972, *27*(2), pp. 294–98.
3. PESANDO, JAMES E. "The Supply of Money and Common Stock Prices: Further Observations on the Econometric Evidence," *J. Finance*, June 1974, *29*(3), pp. 909–21.

200 Quantitative Economic Methods and Data

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

National income and outlay in Palestine, 1936. Second, enlarged edition. By A. L. GAATHON. Jerusalem: Bank of Israel, [1941] 1978. Pp. xix, 429. Paper. *JEL 78–0998*

The recollection that it was not until 1944 that estimators from the United Kingdom, Canada, and the United States convened to establish uniform national income accounting procedures and not until 1947 that the first extensive supplement on national income was published by the Department of Commerce, makes this work, originally released in 1941, a genuine pioneering effort. Gaathon (formerly known as Ludwig Gruenbaum) deserves at least peripheral mention along with Simon

Kuznets, Colin Clark, R. H. Coats, Erik Lindahl, and Ragnar Frisch.

The initial version, totally incorporated within the present enlarged edition, was written between 1937 and 1939 and consisted of the first three parts. It was, as the author notes, "The output of a one-man committee, working under severe time pressure, without professional assistance and lacking even a simple hand computer" (p. 115). Part one dealt with methodology; part two presented results; and part three covered individual sectors, foreign trade, and the relation between national wealth and national income. In the present work, Gaathon has included corrigenda and addenda to these three parts, the first English translation of parts four and five, and a new part six.

Far more than an estimate of 1936 national income in British-controlled Palestine, this unique research effort also presents a detailed input-output matrix for a two-community economy (Arab and Jewish), calculations of changes in national wealth, and finely disaggregated data which should be invaluable for economic historians. It could easily have been entitled "The Social Accounts in Palestine," lacking only articulated National Balance Sheets and Flow-of-Funds Statements. The ostensible purpose of Gaathon's work was to estimate the national income of Palestine, together with the shares of the Jewish and Arab communities. Hampered by the lack of income tax data in the absence of such a tax, he used censuses of agriculture and industry conducted by the Jewish Agency for Palestine and the British Government, current output statistics, import-export figures and the like. His methodology was shaped by the necessity of dealing with two aggregate incomes: Jewish and Arab.

Gaathon's definition of national income is: "the total of goods and services which become available to the nation for consumption and new investment in the course of a year" (p. 5). He includes money incomes and incomes in kind, especially important in Palestinian agriculture. Nor does he neglect the services provided by owner-occupied homes. As to transfers from foreigners—particularly from Jewish organizations and the Catholic Church—their relative importance induced him to treat them as "services" on the ground that those extending the transfers got something in return: "a share . . . in the National Home" or "a link with the Holy Land" (p. 7). Other divergences from usual practice include counting the interest on government debt instead of handling it as a transfer (in retrospect Gaathon still defends this decision, p. 419); and estimating the value of consumer durables in the gross capital stock and depreciating them which, as he points out, is now advocated by many.

The author elaborates two methods: the nominal and the real. The former is more or less equivalent to national income by distributive shares. Nominal national income consists of the additions to value of the different sectors and the incomes produced by them. Payments to British military and officialdom, however, are omitted because their income is "so much higher per head than the average that it seems advisable to deduct them . . . to show the true position of the permanent resident population" (p. 20). The real national income is not to be confused with today's meaning of that term. This was not a statistically deflated value but rather "net product by economic branch and final product estimates" (p. 365). In other words, real national income was the spending of nominal national income. For each group of goods, its destination from origin to consumption is indicated. Inputs and outputs are disaggregated to show results for Jews and non-Jews. Depreciation is treated as a contribution of national wealth to national income. Producer prices are used for "material costs" (that is, nonfactor costs) while output is valued at the cost "ex factory."

Accounts are constructed for industry, building, agriculture, services, and government. Government's value-added is expressed as the wages and salaries of its permanent resident employees and officials. Not surprisingly, in those days government was the largest employer. A rest-of-the-world account is termed Enlarged Balance of Trade and shows exports as 18 percent of national income and imports as 48 percent. Net value-added and certain incomes from abroad—nominal national income—appear on the right side, and "the balance of the Consumption account and certain services which cannot be divided between consumption and cost, but which are presumed to include both" (p. 12), such as the services

of financial institutions, appear on the left side as real national income.

Gaathon was unable to estimate the net change of inventories for want of data but not from lack of comprehension. With regard to changes of national wealth, he displayed the composition of new investment and also calculated gross investment. In 1936, he observed, "It is not improbable that Palestine as a whole has indulged in the consumption of wealth" (p. 16). Not the least of his achievements is the input-output matrix (pp. 200–201) from which national income and output can be derived. Finally, the sources, estimates and problems that are detailed in part five attest to the resourcefulness of this one-man research team.

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300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

Monetary theory and the demand for money. By DOUGLAS FISHER. Mathematical Appendices by JEFFREY I. BERNSTEIN. New York: Wiley, Halsted Press, 1978. Pp. viii, 278. $15.95. *JEL 78–0727*

As the author states in chapter 1, debates in monetary economics have not always been "relaxed." In fact, one could say at times they have been hostile, pedantic, and egocentric; this, however, the author does not say. His aim is to underscore the unity of purpose in the literature on the demand for money and not its bitter differences. To accomplish this goal, the author provides a sweeping review of modern theoretical and empirical monetary studies, citing some 360 studies. Not content with this, the author solicits the services of Jeffrey Bernstein, who provides two mathematical appendices, which integrate the work of some 25 different economists.

Unfortunately, while the author sets his sights on finding agreement on given generalizations, chapter 2 shows unresolved differences on the definition of money. The break between definitions of money in terms of its microeconomic functions (medium of exchange, store of value, *etc.*) and macroeconomic distinctions (inside *vs.* outside money, narrow *vs.* broad, *etc.*) does not help. The fact is we believe there is something that should be called money (possibly because the *Wall Street Journal* tells us so) but have not figured out, or agreed upon, how to distinguish this good from other assets.

Chapters 2 and 3 should be a delight to anyone who has followed the intense and sometimes emotional debate surrounding the "wealth effect" and its role in the macroeconomic adjustment process. Possibly because I was a student of Professor Boris Pesek in the sixties, I am impressed with the author's efforts to find some agreement regarding the wealth contribution of inside money. The fact that this debate still lives is evident in the recent Pesek-Dean exchange in this *Journal* [1, Dean, 1977; 3, Pesek, 1977].

Both the "Keynesians" and "monetarists" should be unnerved by chapter 4. Here it is pointed out that this distinction between economists is mainly one of vision rather than model choice or empirical findings on the demand for money. Empirical results from single equation estimates of the demand for money (where regressors include various income, wealth, and interest rate proxies) are shown to be consistent with both Keynesian and monetarist formulations. While the author reserves his comments on the instability of such single equation estimates until chapter 6, he does pursue the absurdity of estimating log form, single equation models when a simultaneous specification is needed. He also addresses some recent empirical results suggesting the inappropriateness of aggregating "consumer" and "business" demand for money.

Chapter 5 works toward a reconciliation of the "utility theory" of money and the "transaction cost" approach. Starting with a review of portfolio mean-variance models, the author reviews the Baumol-Tobin type inventory theoretic models giving attention to the more general forms advanced by Karl Brunner and Allan H. Meltzer. The author credits Edi Karni and Uri Ben-Zion with providing the first step toward a reconciliation of inventory theoretic modelling with the utility of money approach. However, as the author notes, efforts to put both money balances and consumption flows into a utility function and budget constraint

require highly questionable assumptions. A more fruitful way to tie utility theory and transaction costs together may be found by not inserting money directly into the utility function (or production function) but by giving it a role in saving time in consumption (or production). Thomas R. Saving's approach is cited by the author as a worthwhile effort in this direction. (The interested reader may wish to review chapter 2 of Jürg Niehans's recent book for more insights into indirect utility of money approaches [2, 1978].)

Chapter 6 provides an excellent short review of the term structure of interest rates and its implications for the demand for money. As the author notes, economists' interest in the demand for money has not made much use of the theory of term structure. Term structure may provide direct implications for the stability of the demand for money over the business cycle. The author's original extension of the G. O. Bierwag and M. Grove mean-variance model to include money suggests how the effect of the business cycle through interest rates may cause instability in the demand for money. He demonstrates why three interest rates—a short or "own" rate, an expected rate, and a long rate—belong in the demand for money. (The first two rates should have a nonnegative effect on the "intermediate" demand for money. If the yield curve is downward sloping, as should be the case at the peak of the business cycle, a negative relation between "terminal" money demand and a long-term rate should be observable.) This modelling, however, requires the assumptions that money and short-term bonds yield the same interest in the first two periods—intermediate periods—and terminal wealth at the end of the third period is held in the form of money only.

Chapter 7 is a catch-all including discussions of price inflation, employment, and the demand for money. First, attention is given to the dynamic specifications of the demand for money in empirical work. The author concludes that the use of distributed lag or partial adjustment models to estimate price expectations is inappropriate for money demand specifications under hyper-inflation conditions. The long weighting pattern implied by such specifications is inconsistent with the observation that quicker inflation produces faster reactions. In addition to considering several other specifications of the demand for money under inflationary conditions, John Muth's idea of "rational expectations" is given special attention. Here individuals use all information available at time t to predict prices at time $t+1$. By some mysterious process, which the author does not address, people are assumed to have perfect foresight, so expectations about future prices are fulfilled. Such expectations are given as being consistent with Irving Fisher's explanation of the Gibson Paradox and a variety of adjustment processes for the demand for money. Finally, the author discusses the role of money in explanations of the Phillips Curve and growth theory.

There is little question that this book should be on the shelf of every graduate student and specialist in the area of monetary studies—the intended audience. It would be an excellent text for a graduate survey course on monetary economics. It will not only provide graduate students with an overview of the current state of the art but will also direct them toward possible dissertation topics that might advance our understanding of monetary economics.

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REFERENCES

1. DEAN, JAMES W. "Professor Pesek Returns," *J. Econ. Lit.*, Sept. 1977, *15*(3), pp. 920–24.
2. NIEHANS, JÜRG. *The theory of money.* Baltimore and London: John Hopkins University Press, 1978.
3. PESEK, BORIS P. "Reply to Professor Dean," *J. Econ. Lit.*, Sept, 1977, *15*(3), pp. 924–27.

Money and credit in a developing economy: The Greek case. By D. J. HALIKIAS. New York: New York University Press, 1978. Pp. xii, 307. $17.50. *JEL 79–0124*

This book is an updated translation of an original study published in 1976 by the Bank of Greece, where the author holds the key position of Economic Advisor. Its focal point is the examination of the effectiveness of a system of qualitative credit controls, coupled with credit rationing and fixing interest rates, in serving its assumed purpose of influencing the allocation of funds and resources in a way conducive to industrialization and economic de-

velopment. This is the policy followed persistently by the Greek authorities in the entire postwar era. Halikias has written a carefully documented and well-reasoned study which, through the Greek case, informs the reader about the possibilities and problems of credit policies.

Credit rationing and the detailed qualitative controls were a legacy of the immediate postwar years of economic disorganization and rampant inflation. With the effective reconstruction of the country, and especially after the 1953 monetary reformation and devaluation of the drachma, the rationale for these controls became questionable. The restoration of the public's confidence in the national currency led to an ever increasing flow of deposits in the banks, to such an extent that commercial banks have ever since operated with excessive liquidity and lending capacity. For the monetary authorities, however, maintaining these controls meant promoting credit to the so-called "productive" sectors, *i.e.*, the manufacturing and export-oriented industries. The "unproductive" and "speculative" activities, such as dwelling construction, and domestic and import trade, were penalized. Given the input-output relations among these sectors, that was a dubious binary classification. At any rate, once the authorities believed that Greece was suffering from capital shortage, it somehow followed that certain activities had to be favored against others if any development plan was to be implemented. In the absence of a developed capital market, qualitative credit controls were considered the suitable and available policy option. The record shows, however, that industrial investment is not induced by the mere availability of easy credit, while at the same time the existing system of controls is not immune to undesirable leakages, where credit is indirectly channeled to "unproductive" activities.

The qualitative credit controls were meant to influence the asset composition of the commercial banks' portfolios in accordance with the developmental targets. The structure of the interest rates was, however, such that it has always been more profitable for the banks to lend short-term rather than long-term. In general, for the banks, compliance with the credit regulations would imply maintaining unnecessarily high cash reserves and a loss of profit. Greek commercial banks are by tradition, to a considerable extent, "banques d'affaires," and they have long standing links with the oldest and largest industrial firms. On the other hand, commercial banking is dominated by an oligopoly, where two banking groups (now both of them under government control) hold nearly 90 percent of all assets in the banking industry. The banks neither took the initiative nor were they given the proper incentives to expand their long-term credit facilities. Even the specialized government long-term financing institutions have failed to promote many industrial ventures, due perhaps to the conservatism of their boards of directors. Thus, the authorities' aim of promoting industrialization by ensuring an elastic supply of credit largely failed because it was not based on realistic criteria of profitability, while it may have induced the banks to maintain their rigidity in operations and resist innovation and competition.

While Halikias's study covers pretty well the structure of the Greek credit system and its effects on banks' portfolio behavior and on investment financing, it leaves one's appetite unsatisfied by eschewing three important issues. The first has to do with monetary control and the role of the Bank of Greece. The responsibility for the formulation and implementation of monetary and credit policies belongs, since 1948, to the Currency Committee, presided over by the Minister of Coordination and including five other members (the Governor of the Bank of Greece and four economic ministers). As the Governor himself is appointed by the government, monetary and credit policies are not independent of fiscal and general government policies, often characterized by a non-articulated "dirigisme." In fact, government deficits are guaranteed virtually automatic financing with Bank of Greece funds. On the other hand, even when in recent years the Bank has adopted "monetary targets," meaning upper limits in the annual rates of monetary and credit expansion, the Currency Committee (and the commercial banks, of course) has been unable and/or unwilling to abide by these targets. Given the inadequacies of the credit policy pursued for such a long time, one wishes that the author had some-

thing to say about a more efficient monetary and credit control. The second issue has to do with the fact that, with money supply an essentially endogenous and uncontrollable variable, elastic credit supply policies currently contribute more to inflationary pressures than to further industrialization. Various credit-*cum*-tax incentives for regional industrial development have failed in the past, and one simply hopes that the recent such measures will have a positive effect. The third issue has to do with the author's avoiding the question as to what a better alternative to these qualitative credit controls may be. At various points in the book one suspects that Halikias favors abolishing these controls and liberalizing the entire credit system, which would indeed be a very sensible proposal.

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320 Fiscal Theory and Policy; Public Finance

The economic constitution of federal states. By ALBERT BRETON AND ANTHONY SCOTT. Toronto; Buffalo and London: University of Toronto Press, 1978. Pp. 166. $10.00
JEL 78-1016

Over the last twenty-five years or so, the economics of federalism has emerged as a recognizable specialty within public finance theory. In that development, Albert Breton and Tony Scott certainly figure among the more significant of the contributors. It might therefore be expected that this book would represent a restatement, refinement, and extension of the emergent orthodoxy. Not so. This is rather a recantation. In their book, the authors seek both to present a major criticism of the theory that they had helped earlier to erect and to develop an elaborate alternative, based on the notion of transactions costs.

The criticisms of "orthodoxy" are, I think, largely valid. The existing theory of federalism attempts to derive an optimal allocation of functions across levels of government (or an "optimal constitution" to use Breton's earlier term) based on the spatial properties of the spillover benefits that various public and quasi-public goods provide. The problem of constitutional design in this earlier Breton sense is then seen as the "engineering-type" problem of deriving optimal government areas in much the same way as a large firm might derive optimal plant size.

There are three major problems with this approach. First, the analysis implies a different level of government for each public service: the number of such levels would hence be extremely large. This arrangement is not congruent with any federal system we know, nor does it seem intuitively likely that such an arrangement would in fact be optimal. Second, the theory does not explain why genuine political decentralization is necessary to achieve the desired results: an appropriately benevolent (or electorally constrained) central government could achieve precisely the same results purely by administrative delegation. Thirdly, the theory is institutionally void. The "optimal" allocation of function is derived on the assumption that governments operate "perfectly" in accord with the demands of those who consume the various public goods. It seems unlikely that the same allocation of functions would emerge as desirable when plausible assumptions about the operation of the political mechanism are inserted.

In part, the Breton-Scott theory attempts to deal with these criticisms. But it takes as its point of departure another problem, first noted by Gordon Tullock [2, 1969]. If the analogy between the standard approach to federal structure and choice of plant size is a valid one, then the theory fails because there is no necessary connection between optimal plant size and optimal decision-making units. The optimal size of the *plant* does not determine of itself the optimal size of the *firm*. The optimal size of the firm (or the decision-making unit in the government context) is in the Breton-Scott theory rather to be determined by reference to that organizational structure which minimizes "transactions costs." In this sense, the Breton-Scott theory of "federal constitutions" represents an elaboration and refinement of Ronald Coase's theory of the firm [1, 1937].

To indicate the nature of the approach, consider a simple case. Why, for example, should national defense not be provided by sub-national governments? Sub-national govern-

ments could, of course, *jointly* determine the level of defense to be provided, if indeed the efficient technology involves providing defense as a national public good, just as members of an alliance can provide defense where the efficient technology is "super-national." The problems of free-riding and strategic behavior under such an arrangement are clear: these are "coordination costs" in the Breton-Scott terminology. However, as Breton and Scott remind us, the obvious alternative of provision by the national level of government also involves costs—the "administrative costs" associated with setting up an additional level of government and its larger internal organization. Only if these administrative costs are less than coordination costs will *national* government be justified. More generally, optimal federal structure should be chosen so as to minimize the sum of administrative and coordination costs.

As Breton and Scott recognize, these "supply side" considerations are not quite enough to generate a complete theory of federalism. Citizens will have preferences for alternative governmental structures based on the extent to which these structures generate political outcomes in accord with those they want. Yet it is not clear that the Breton-Scott "mobility costs" and "signalling costs" adequately capture what is at stake here. The Coase theory of the firm can abstract from demand side considerations because the market constrains firms to generate outcomes that consumers want. But if a monopoly firm makes centralized decisions for fifty plants, it is clear that consumers would prefer to have plants as firms despite the higher "coordination costs" because it makes for preferred (competitive) outcomes. There is no desire to reduce coordination costs among competitive firms. Likewise, where electoral processes do not constrain governments to generate outcomes desired by citizens, the possibility of mobility among competing jurisdictions sets limits on the extent to which governments can exploit their citizens. In this setting, it is by no means clear that outcomes which minimize coordination and mobility costs are to be preferred. For if jurisdictions can coordinate activities to produce public goods most efficiently, they can coordinate to exploit the citizenry more effectively also. The crucial role of mobility as a source of constraint on the behavior of government additional to and independent of electoral processes has been an important (if largely implicit) theme in the federalism literature since Tiebout. It is essentially ignored in the Breton-Scott analysis. Yet it does, in my view, undo a significant part of their theory.

Breton and Scott have in this book gone some way in freeing the theory of federalism from its strong "engineering-problem" orientation. My complaint is that they have not gone far enough. Their approach strongly reflects the "perfect government" assumptions of the orthodoxy, and their argument could be applied entirely within that setting. Once the possibility that governments may be substantially imperfect is taken seriously, however, the whole objective of minimizing transactions costs between levels of government becomes questionable; and the constitutional norm shifts strongly in the direction of greater decentralization than the Breton-Scott analysis would imply.

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REFERENCES

1. COASE, RONALD. "The Nature of the Firm," *Economica*, Nov. 1937, *6*, pp. 386–405.
2. TULLOCK, GORDON. "Federalism: Problems of Scale," *Public Choice*, Spring 1969, *6*, pp. 19–29.

Fiscal responsibility in constitutional democracy. Edited by JAMES M. BUCHANAN AND RICHARD E. WAGNER. Studies in Public Choice, Vol. 1. Leiden and Boston: Martinus Nijhoff Social Sciences Division, 1978. Pp. x, 180. Dfl. 46.80.

JEL 79-1017

Inexperienced reviewers should be advised to shun conference volumes, or at least not to accept them sight unseen, so markedly do they vary in their aims, composition, and quality. In some instances the contents are so miscellaneous and the connecting threads so tenuous that the original cast seems to resemble a group of characters in search of an author rather than a scholarly assemblage of purposive truth seekers. In other cases, however, es-

pecially with gatherings designed to honor some distinguished individual or mark a noteworthy event, the prevailing mood is that of a band of the faithful preaching to the converted with, perhaps, the odd maverick or heretic thrown in to counteract the impression of pre-selected harmony and conformity. And in the many instances that fall between these extremes, the reviewer is hard put to survey the product briefly without either doing injustice to the participants or losing friends.

These reflections are prompted by the present volume, which is unusual, if not unique, in that the conference organizers were "somewhat surprised by the meager support for our own position that the conduct of budgetary policy has been following dangerous paths, and that we should be concerned about the course that events have been taking" (p. 7). In their paper "The Political Biases of Keynesian Economics," which echoes the main themes of their book *Democracy in Deficit: The Political Legacy of Lord Keynes* [1, 1977] Buchanan and Wagner contend that the destruction of the "old time fiscal religion" in the Keynesian revolution generated an "asymmetry in the conduct of budgetary policy," which was less serious in the kind of democratic system controlled by an elite, as Keynes conceived it, than in a more genuinely representative system. The argument adds a political dimension to Schumpeter's dismissal of the *General Theory* as "depression economics"; but their conclusion that "explicit constitutional action is required" to restrain excessive spending receives not "meager support," but rather a fatal wounding from Herbert Stein's impressive paper "The Decline of the Budget-Balancing Doctrine, *or* How the Good Guys Finally Lost." This should be required reading for all advocates of simplistic constitutional amendments and legislative enactments proscribing budgetary deficits. Stein ruthlessly exposes the ambiguities and limitations of balanced budget beliefs, and concludes his review of the past record by observing (p. 53):

> The good old days [before the Fiscal Revolution in America] were not so great. The bad new days after the change are not so terrible . . . we don't really know enough to manage the economy as well as we would like. But we never did. We can't go back to the old myths and wouldn't like it if we did. And we can't create new myths, at least not consciously by holding conferences for that purpose. The only way out of our predicament is to try to go forward and learn more, not to try to go backward and unlearn what we have learned.

However, a conscientious reviewer cannot rest in peace even with this authoritative epitaph on Fiscal Responsibility from an erstwhile Chairman of the Council of Economic Advisers under a Republican regime. Is this what Richard Nixon meant when he reportedly announced: "We are all Keynesians now?" Another clue to the meaning of that dictum is afforded by Abba Lerner, a distinguished early Keynesian functional finance theorist in his paper "Keynesianism: Alive, If Not So Well, at Forty," who declares: "there is no new theory at all in the General Theory. Rather than finding the classical theory wrong, Keynes only fixed it up by filling in the tacit (or missing) assumptions." It was, in fact, "a *practical* revolution—not a revolution in economic theory. It was more like the English than the Russian Revolution, killing fewer people and keeping the Royal Family with limited functions" (p. 64).

While noting that it was actually the monarchy as an institution, not the established Stuart seccession, that survived after 1688, the historian may yet be pardoned for rubbing his eyes in astonishment. Was that what all the fuss was about in the 1930's, that dawn when (we have been told) it was "bliss" to be alive, "and to be young was very heaven?" Was that episode simply an illusion due, as Lerner asserts, to the fact that: "Teaching economics consists so much of correcting logical errors that a fixation on logic becomes an occupational hazard?" (pp. 64–65). What better testimony could there be to the need for sound training in the history of economics than the current promiscuous revisionism?

Unfortunately William Breit's effort to set another part of the record straight in his "Starving the Leviathan: Balanced Budget Prescriptions Before Keynes" encounters sharp criticism from other commentators. Donald F. Gordon believes "Breit mildly slanders the classical economists and the wages fund doctrine" by describing the latter as "economic mythology," and undermines Breit's

case by claiming that "Keynesian economics and inflation seem to be neither sufficient nor necessary conditions for large government" (pp. 25, 27). Later, in response to Stein, Armen A. Alchian declares that even without Keynesian doctrine "government expenditures, financing and activity would not have been significantly different. In looking at the past few millenium [*sic*] I find little that is different today in government tax, money and spending activity" (p. 55). So much for the ideas of defunct economists to which Keynes himself attached so much importance!

There is space enough only to mention the two remaining papers: Jesse Burkhead and Charles Knerr, on "Congressional Budget Reform: New Decision Structures"; William A. Niskanen's "The Prospect for a Liberal Democracy"—a more economic piece than its title may suggest; and Mancur Olson's perceptive comments on the editors' paper, in which he concludes that: "In so far as the Keynesian conception of the burden of the public debt has any relevance at all, it does in the opposite direction from the one in which Buchanan and Wagner are pulling" (p. 117).

Taken as a whole, this is a stimulating and provocative book. Its contents are a fitting, if unexpected, tribute to the principal editor's individualism and independent-mindedness.

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REFERENCE

1. BUCHANAN, JAMES M. AND WAGNER, RICHARD E. *Democracy in deficit: The British legacy of Lord Keynes.* New York and London: Harcourt Brace Jovanovich, Academic Press, 1977.

Federalism and fiscal balance: A comparative study. By JAMES S. H. HUNTER. Canberra: Australian National University Press and Centre for Research on Federal Financial Relations, 1977. Pp. vii, 271. A$18.50.

JEL 78-1019

The aim of this book is to illuminate the recent complex financial arrangements between central government, states, and local governments in four countries with federal systems of government: Australia, Canada, the United States of America, and West Germany. The coverage and depth of analysis on each country is uneven, with the longest discussion on Australia; the author devotes almost as many pages to her federal system as for the three other countries put together. The United States and West Germany receive only sketchy reviews in parts. Nevertheless, it is refreshing and enlightening to have the new federation of West Germany included. Previously, comparative studies have been largely restricted to Australia, Canada, and the United States.

The book is divided into four parts. The first provides a "background survey" with chapters on "the essence of federalism and the constitutional division of powers and responsibilities," "economic structure and the role of government," and "theoretical aspects of fiscal federalism," in which it is suggested that "state and local authorities should have a major role in terms of resource allocation" (p. 32). Parts two and three, taking up about one-third each of the book, are devoted to critical reviews of leading aspects of vertical balance and horizontal balance, respectively. Finally, part four (about one-fifth of the book) discusses important developments in intergovernmental cooperation and planning, as between the federal government and the states in each of the four federal systems. Each federation bears the marks of changing governments, ideas, and economic and social pressures. Thus an addendum carries forward the "new federalism" developments in Australia following the change from the Federal Labor Government to the Liberal-National Country Party Coalition in November 1975.

Professor Hunter shows in a number of ways how one federation, in dealing with its own situation, has benefited from observing—if not necessarily following—the institutional arrangements or policies in another. For instance, the objectives and mechanism of federal revenue sharing, which was adopted in the United States in 1972 and is aimed at correcting for vertical as well as horizontal fiscal imbalance, has attracted a great deal of attention. Earlier, Canadians, in seeking appropriate intergovernmental arrangements, had been impressed by their "observations of the intergovernmental fiscal structure of Australia, particularly the centralised control of govern-

mental borrowing and the methods employed by the Commonwealth Grants Commission to assess the financial needs of less affluent states" (p. 71). But, as Hunter's study shows, more recent developments in Australia have revealed major imbalances stemming from policy being largely dominated by the "center."

A major problem for Australia arises over the underlying rationale of horizontal fiscal equalization (HFE) at the state level, in particular the failure to allow that "states (or areas within states) with high per capita incomes also tend to have relatively high per capita expenditure needs. The German technique does meet this problem in some degree by means of the population valuation" (p. 177). But, in Australia, equalization payments "appear to have little or no regard to the expenditure needs of the large cities" where the bulk of the population lives and which continue to grow despite their financial problems. Thus, HFE in Australia, through the objective to provide a "balancing mechanism," has been working against the market forces making for centralization of population.

Hunter draws attention to other weaknesses of the Australian system: for instance, in reference to attempts at "fiscal equalization," the lack of regulation "at one point," the lack of an "explicit equalization formula" to provide "a clear separation between vertical and horizontal fiscal imbalance," and the considerable "scope for subjective judgment and short-term political bargaining" (p. 172). By contrast, Hunter states: "the great merit of the equalising procedures adopted in Canada and West Germany is that the intentions of the central government are made explicit. There is little scope for subjective judgment and piecemeal subsidies to placate particular states" (p. 173).

Hunter makes only passing references to the influences of leading aspects of the state of economic activity in discussing actual or suggested changes in federal structures in order to overcome prevailing problems. Nevertheless, the state of activity has been a more important avenue of influence in different ways in each federation than appears to have been attributed to it, especially because of the considerable and growing concern of governments with the state and level of economic activity. In particular, Hunter's relative neglect of the influences of the recurring inflation and unemployment problems limited the explanation of the rationale of some developments and the evaluation of particular fiscal arrangements. Greater attention to the different degrees of success in dealing with the major economic problems of inflation and unemployment would probably have shown more clearly the apparent merits of West Germany's policy of "cooperative federalism," and how other federations (especially Australia) might benefit from German emphasis on "joint decision making" in intergovernmental relations and in the machinery relating to "trade cycle control, medium-range planning, the execution of joint tasks, and the distribution of tax revenue" (p. 207).

However, overall, this is a useful book. It is attractive for the comparisons and contrasts drawn directly between the fiscal experiences and developments in the four federations. It is also attractive for the light that it throws on ways of dealing with leading problems of federalism itself. Students of public finance, government officials, and policy-makers will benefit from Hunter's clear exposition and well-documented descriptions of the strengths and weaknesses of the arrangements and techniques being employed in each federation with the objective of correcting for vertical and horizontal fiscal imbalances.

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The British tax system. By J. A. KAY AND M. A. KING. London; Toronto and Tokyo: Oxford University Press, 1978. Pp. xi, 275. £15.50. *JEL 78–1020*

This book is a valuable by-product of the Meade Committee, which from 1975 to 1977 studied the Structure and Reform of Direct Taxation in Britain. The authors, drawing from the knowledge and experience they gained as members of that committee, make skillful use of economic analysis to discuss the problems facing the British tax system and to prescribe remedies. Picking their way carefully through the tangle of traditional and modern public finance theory, much of which they find of little help, they meticulously select those elements that prove useful in dealing in a practical manner with day-to-day tax problems.

Their discussion is spiced with generous dashes of wry wit, trenchant criticisms of tax complexities and distortions, and tolerant explanations of tax system absurdities. The result is a book that will appeal to a far wider audience than is usually attracted to a subject often considered one of the quieter corners of the dismal science.

Each part of the British tax system is studiously surveyed, found wanting, and compared with alternatives that not only promise important efficiency and equity gains but also appear to be feasible attainments in an imperfect world. The ubiquity of difficult policy tradeoffs is stressed, as well as the high risks that carelessly designed reforms will worsen the very problems they are supposed to solve. Commenting, for example, on the pre-1974 estate duty reliefs intended to assist working farmers, the authors conclude: "It is more likely that they damaged the interests of such farmers, since the capitalization of such concessions raised land prices to levels which were nonsensical in terms of any likely agricultural returns from the land and at which working farmers were squeezed out of the market by those avoiding estate duty" (p. 12). Designers of price support and other agricultural subsidy programs in the United States would do well to consider such possibilities.

Though the book is aimed at British readers and draws its evidence largely from British sources, it develops a number of tax themes of importance to fiscal experts and taxpayers everywhere. One has to do with the relation between marginal and average income tax rates and the consequent effects on work incentives and disincentives. Both rates are high in Britain. The total tax burden on extra earnings is estimated to exceed 50 percent for "virtually everyone in the U.K." (p. 25). Marginal rates are very high on low-income families because of a large number of *ad hoc* means-tested welfare benefit programs and on high-income families because of the top bracket rates of 83 percent on earned income and 98 percent on investment income. The result is a tax system under which "it is not too difficult to stay rich, but it is distinctly difficult to become rich" (p. 70). Even worse, preoccupation with tax rates and with the nominal equity of the system rather than with its real inefficiencies leads to tax reform measures that make matters worse. These then lead to further measures of the same kind, and so on indefinitely. Tax burdens "fall heavily on those engaged in productive sectors of the economy without achieving much in the way of substantial redistribution" (p. 247).

One solution to this muddle, much discussed in the United States, would be to expand the scope of the income tax base and reduce tax rates proportionately. Kay and King discuss these possibilities and reject them firmly. Their conclusion is that such an approach is attractive in principle, but unworkable in practice. Another possibility, for which they make a strong case, would be to adopt a linear income tax schedule. This plan would make use of only two parameters—a basic family allowance, which is either tax exempt or paid to individuals as a cash grant, and a single tax rate applied to all other income. The design is starkly simple, yet capable of providing a substantial degree of tax progressivity. The authors' arguments here draw skillfully from modern theories of optimal income taxation and from recent improvements in the definition and measurement of income inequality, particularly those by A. B. Atkinson.

One of the patent absurdities of the British tax system is its treatment of personal investment income. "It is not simple, it is not fair, it is not effective, and it is characterized by rates of tax which reach heights which are tolerable only because they are not intended seriously" (p. 248). Important loopholes exist—capital gains, houses and other consumer durables, pensions, life insurance and other kinds of institutional investment—and "anyone who is paying an *effective* tax rate on [investment] income of more than 50%–60% ought to obtain better professional advice" (p. 56). Tax-privileged saving (*i.e.*, savings that receive exemption or highly favorable tax treatment) is estimated to be 89 percent of total saving in the U.K. in the 1972–76 period, compared to 56 percent in the U.S. (p. 60). What is called an income tax, in other words, is partly a badly designed expenditure tax and, because its base is money rather than real income, partly a randomly imposed wealth tax. Neither feature has much to recommend it.

The solution proposed by Kay and King is

a gradual shift to a life-time expenditure tax based on the annual cash flow of each taxpayer. Continuing in their role of theoretical pragmatists, the authors rest their case for this fundamental tax reform less on its theortical attractions, though these are discussed with care, than on the administrative simplifications achievable by moving from an accruals tax base to a cash flow base. Elimination of the distortions now created by inflation and by preferences granted to different kinds of saving and investment income would also be important. The authors clearly expect no increase in the general level of saving to result from such a tax change, though some recent U.S. studies, which they do not cite, throw doubt on this conclusion by finding that personal saving is sensitive to rates of return.

The sweeping tax reform that Kay and King propose is rounded out by changes in the treatment of gifts and bequests and of company profits. Their discussion of the alternatives here is a model of applied economic analysis. They distill the essence from intricate economic theories of corporate tax incidence and company investment behavior and deftly elucidate the weaknesses of various kinds of capital taxation. This process leads to their recommendation that gifts and bequests be included in the life-time expenditure tax base and that company taxation be shifted to a cash flow basis. These changes would mean the immediate expensing of all corporate investment outlays and the denial of any tax deduction for interest paid. Among other things this would remove the present anomaly that "for investment qualifying for free depreciation and substantially financed by borrowing, the higher the rate of corporation tax the stronger the inducement to undertake the project" (p. 193).

This is a book that should be read widely. It is a provocative, thoughtful, and professional treatment of an important, and probably worsening, economic problem afflicting nations everywhere. The authors are speaking directly of Britain and of the mess, carefully documented, into which its tax system has sunk, but their words have far broader application: "Anyone who came to it for the first time would regard the present system with some incredulity. . . . No one would design such a system on purpose and nobody did. Only a historical explanation of how it came about can be offered as a justification. That is not a justification, but a demonstration of how seemingly individually rational decisions can have absurd effects in aggregate" (p. 246). This could be an epitaph for any politically devised tax system, but it is not the message of the book. Kay and King are not cursing the dark but trying to light candles. Their arguments should be given an attentive hearing.

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Wealth redistribution and the income tax. Edited by ARLEEN A. LEIBOWITZ. Lexington, Mass., and Toronto: Heath, Lexington Books, 1978. Pp. ix, 130. $13.50. *JEL 78–1021*

Tax reform is back in fashion. In particular, there is a great deal of current interest in the old idea of replacing the income tax by a personal expenditure tax. Detailed proposals for reform along these lines have been discussed by the U.S. Treasury Report, *Blueprints for Tax Reform,* the Meade Report in Britain, and Sven-Olof Lodin's Report for the Swedish Government Commission on Taxation. This book is based on a conference of distinguished lawyers and economists held in 1977 to discuss some of the fundamental issues involved.

The volume consists of a long paper by Norman Ture and detailed commentaries on his paper by Michael Graetz, Martin Feldstein, Boris Bittker, and Richard Musgrave. An edited version of the conference discussion is also included, and the result is a short book of 130 pages. Although there is a great deal of importance to be said on the subject of tax reform, it is also an area in which a great deal has been written. It is perhaps not surprising, therefore, that in these few pages one will find little which will be new to students of the literature and no guide to the subject for the layman or student. The paper by Ture appears to have two aims. First, it argues against redistributive taxation and, secondly, it argues in favor of an expenditure tax. To judge from the published discussion, most of the participants in the conference were very critical of Ture's paper. It is difficult for this reviewer to disagree with the apparently common view that Ture presented a misleadingly simple view of the arguments for the use of taxation to redistrib-

ute income and overlooked much of the recent literature on the economics of taxation. For example, in his analysis of how the total tax burden (required to finance public expenditure) should be distributed among the persons in society, Ture makes no reference to the literature on optimal taxation and does not mention the work of James A. Mirrlees nor the subsequent literature on this subject.

His paper is certainly challenging, and the subject matter wide ranging. But to analyze the weaknesses of the present U.S. tax system requires more than a single paper, and as a result Ture's attempt to discuss all the major tax problems of the day has the air of a man aiming rapid gunfire at a moving target. When the smoke has blown over, there seems to be little damage of any real substance. Little empirical evidence is employed to support the argument, and the philosophical sections of the paper are more provocative than analytical. To quote Martin Feldstein's contribution, "Professional philosophers have a comparative advantage *vis-à-vis* economists in the development of ethical principles. A Mill can create a case for utilitarianism, a Rawls for the maximin principle, and a Nozick for the idea of just entitlement. . . . Economics—and the theory of taxation in particular—cannot hope to develop convincing ethical principles but must concentrate on drawing out the implications of alternative ethical standards" (p. 57). On these general issues, and also on the specific reforms proposed by Ture, the commentaries of Michael Graetz, Martin Feldstein, and Richard Musgrave are admirable. In particular, the reader would be well advised to begin with Musgrave's contribution, which is an excellent summary of the main issues.

Ture's main proposal is to replace the present income tax by a personal expenditure tax. His main argument is that at present there is a substantial bias against savings in the tax system and that the objective of change should be to increase the total level of savings in the economy. In turn he argues that this would be the most effective means of increasing economic welfare at all levels of the income distribution. His assertion that the effective tax rate on capital income is much larger than that on labor income seems to be somewhat dubious. In many ways the most significant feature of the present system, to which Ture does draw attention, is the enormous variety in the tax treatment of different types of saving and capital income. Saving via pension funds and life insurance companies is favorably treated, and the effective tax rate on capital gains is clearly lower than that on labor income. The net outcome of these provisions is difficult to assess, particularly in times of inflation, but it does not seem at all obvious that the effective tax rate on capital income on average bears any clear relation to the tax rate on labor income. Moreover, the efficiency arguments for an expenditure tax must take into account not only the distortion between present and future consumption but also that between work and leisure. The nature of the resulting "optimal" system is far from clear. There are many good arguments for an expenditure tax, and the need to adopt a consistent treatment of the taxation of savings and capital income is one of the most important. But Ture, although alluding to many of these arguments, does not bring them to the fore in his arguments nor discusses them in any detail. There are a number of minor mistakes in the arguments presented (for example, Ture seems to believe that an expenditure tax would require each taxpayer to maintain annual accounts of his net worth) and many of these are brought out by the discussion recorded in this volume.

Although this volume does not contribute much to the current debate on tax reform, Ture's paper does provoke and challenge several widely-held views that are often incorrectly supposed to be self-evident. In this respect Ture's paper serves a most useful purpose and reminds us of the need to assess and justify the basic principles upon which the tax system is based.

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The public's business: The politics and practices of government corporations. By ANN-MARIE HAUCK WALSH. A Twentiety Century Fund Study. Cambridge, Mass., and London: MIT Press, 1978. Pp. xvi, 436. $19.95. *JEL 78–0745*

In this era of proliferation of Proposition 13–type measures to limit government spending and Kemp-Roth–style bills advocating tax cuts,

it is not surprising that the interests of our profession have focused with renewed vigor on the governmental budget-making process and its economic impact. What is often neglected in such analysis is the increasing levels of what might be termed "off-budget" government activity. Although the government regulatory process has been the subject of recent increased scrutiny, the practices of public corporations, especially at the local level, have garnered relatively little professional attention. Yet in a period of budget stringency, if not absolute decline, such authorities represent attractive alternative conduits through which to conduct the public's business. An understanding of the assets and liabilities of government by public authority is thus crucial in the current milieu. Professor Walsh's book, sponsored by the Twentieth Century Fund, provides such a well-documented, thought-provoking examination of the policies and practices of public corporations. It is an important book, especially so in the current political environment.

The twelve chapters in the volume are divided into four major sections. The first, composed of the initial two chapters, presents the basic premises and conclusions of Professor Walsh's thesis as well as an analysis of the origin and evolution of public enterprise device in the United States. This part of the text is best read in conjunction with the appendix to the volume, which documents the current (early 1970's) importance of public authorities at the federal, state, and local level. The author restricts the bulk of her attention to those public entities which have (1) independent management, (2) borrowing powers, but (3) no active taxing powers.

The second major portion of the book, encompassing chapters 3 through 6, focuses on what might be called the external relations of the public enterprise. Attention is concentrated on the authority/money market nexus. Analyzing general procedures as well as specific case studies, the influence of bond market funding on the practices and objectives of public enterprises is investigated. Part three of the volume, including chapters 7 to 9, looks at the internal functioning of public corporations. Again specific case studies, ranging from New York and New Jersey in the east, Texas and Minnesota in the midwest to Washington in the west, are used to develop certain common themes as well as illustrate diversity in management techniques. The final three chapters constitute the fourth section of the volume. In these chapters the author provides an overall assessment of pluses and minuses of public enterprise, advances suggestions for both reigning in the excesses of such authorities and harnessing them for the advancement of the public weal.

In evaluating public authorities, Professor Walsh finds them wanting in several crucial dimensions. As corporations without stockholders, political jurisdictions without voters or taxpayers, government enterprise involves public ownership and control over resources without public policy. As corporations raising funds on private (tax exempt) capital markets, they tend to emphasize risk minimization and private rate of return. As public agencies, however, they deal in areas replete with spillovers or externalities: education, transportation, pollution, *etc.* The result is, of course, conflict and the well-documented thesis of this book:

> Public authorities that are supposed to act in the general interest of a state, region, or city frequently do not. Because of their insulation, they overemphasize financial returns and reflect or accept the viewpoints of banking and business participants. They bias government investment in favor of physical infrastructures for short-term economic return. (P. 6.)

Public authorities currently raise between \$7–12 billion a year by issuing long-term revenue bonds in the municipal bond market. Their share of the municipal bond market has grown from 20 percent in 1961 to 36 percent in 1976 (chapter 3). This dependency on the credit market has several untoward effects on enterprise operations. First, an unholy alliance of public enterprise with bond market entities (*e.g.*, banks, law firms, *etc.*) has resulted in indentures and covenants severely restricting the management of these public entities. Such restrictions, for instance, typically force authorities to reborrow to finance new projects rather than use "excess" revenue (above that required for bond obligations) for these undertakings. Secondly, it has directly led to an emphasis on bond marketability often at the sacrifice of lower interest rates and minimizing

indentured restrictions. It has led to the myths that authorities should be "business-like" in conducting their affairs and that authorities are "responsible to the bondholders." Professor Walsh vividly points out, again using case studies, the effect of such attitudes as well as the fallacy in their advocacy. Public enterprises are definitely not business-like in the sense of being non-political. By virtue of the tax exempt status of their bonds as well as the nature of their endeavors, they are definitely political animals (often directly or indirectly dependent on government for revenue). Similarly responsibility to bondholders, often literally translated into loyalty to the bond market (the "club"), is a figment of the imagination; ultimate responsibility is to the legislature and voters of a jurisdiction.

All is not negative with respect to public corporations however. "They have functioned with technical competence, with relative speed, and until recently with little obvious burden on taxpayers" (p. 3). "Most public authorities do their specific job well. It is their choices of what and what not to do that raise tough questions" (p. 171). Despite the relative ineffectual role played by the typical enterprise board of directors (chapter 7) and the considerable power and automony of their managers (chapter 8), public authorities represent a strong contrast to the usual view of government bureaucracy (chapter 9). Public enterprise, as opposed to general government, has a stronger sense of mission, a stronger problem-solving orientation, and a stronger incentive for productivity and performance (much like private enterprise they have a "bottom line"). These assets of the public corporation are directly related to their well-defined goals, technically competent management and, above all, their organizational and functional flexibility. As Professor Walsh points out (p. 253) bureaucracy is a response to powerlessness, lack of authority, lack of goals, and overspecialization, all of which are characteristics lacking in public corporations.

The challenge, to which the author turns in the last part of the volume, is to build on the virtues of the public corporation while eliminating or minimizing their vices. The key to such an undertaking is to reduce public enterprise preoccupation with financial performance and increase public accountability. The means necessary to accomplish this end involve increased political control and political access. Given the highly politicized context in which authorities actually operate, the concept of control without politics is meaningless, and the hope of achieving public accountability without political "interference" is illusory. Specific suggestions advanced include voter repeal of unrealistic constitutional restrictions on budgeted debt (governments need reasonable borrowing powers without resort to the—often more expensive—alternative of off-budget corporations), following the federal precedent of running enterprises as part of regular governmental departments, utilizing mixed ownership enterprises (familiar in Europe), installing intergovernmental boards of directors, and increasing federal involvement, particularly in financing, to reduce reliance on the private bond market. Effective public enterprise policy requires "acceptance of the enterprise as a legitimate government activity to be conducted for explicitly public purposes" (p. 343) and enterprise financial policies that are "integrated with the government's general financial policies and budget plans" (p. 344).

While a review of this nature may hope to indicate the subject matter of a volume, outline its contents and approach, and even give a highly abbreviated synopsis of its conclusions, it is impossible to do justice to the depth and breadth of the material presented to bolster the major finding and buttress the policy recommendations advanced. Suffice it to say that Professor Walsh has amassed a plethora of evidence. Public enterprises investigated range from local hospital corporations in Pennsylvania, "metro" enterprises in Seattle and Minneapolis, river basin development corporations in Texas, turnpike authorities in New Jersey and Massachusetts; through federal enterprises such as TVA and the Post Office; and include the (infamous) New York–New Jersey Port Authority, the archtype public enterprise. The case of characters includes such luminaries in the realm of public enterprise as Nelson Rockefeller, Robert Moses, and Austin J. Tobin as well as lesser known, but nevertheless influential, personages.

While Professor Walsh is a political scientist by training, she has produced a treatise with truly interdisciplinary appeal. Her grasp of economic concepts and analysis is firm. She has produced a timely, thoughtful, and thought-provoking book that should command a wide audience both within and outside our specific discipline.

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400 International Economics

420 Trade Relations; Commercial Policy; International Economic Integration

International trade and industrial policies: Government intervention and an open world economy. Edited by STEVEN J. WARNECKE. New York: Holmes & Meier, 1978. Pp. xi, 245. $33.25. *JEL 79-0160*

This book deals with the relationship between national industrial subsidy policies and international trade rules. Essentially it provides background for the GATT (General Agreement on Tariffs and Trade) trade negotiations (which will, no doubt, have been concluded by the time this review is published, but the outcome of which will still be in need of ratification by Congress).

By way of background, existing GATT rules prohibit export subsidies and allow the unilateral imposition of countervailing duties against them, provided actual or prospective injury is proven. But in general the GATT prohibition of export subsidies has not been enforced. Furthermore, the United States has had a countervailing duty law since 1897, which allows such duties to be imposed even *without* proof of injury, and foreign governments have been critical of this U.S. countervailing duty policy (permitted for the U.S. by special exemption in GATT) and have wished to see it changed.

The whole subject of subsidies and trade rules is a "can of worms" opened up by the United States in the multilateral trade negotiations. The U.S. has been concerned that subsidies may negate the effects of tariff reductions and has been particularly hostile to export subsidies. It has made various proposals designed (a) to prohibit or discourage subsidies of all kinds (and not just export subsidies) if they have effects on trade and (b) to allow the imposition of countervailing duties without proof of injury in such cases. The problem is that subsidies are hard to define. There may be no difficulty about a straightforward protective cash payment to a private firm. But is there to be a prohibition of tax concessions, of losses of nationalized industries, or of subsidies that offset some particular distortion or that are aimed at some legitimate social purpose?

In one chapter, Richard Cooper reviews U.S. policies and practices. He describes the many ways in which the U.S. government helps U.S. exports directly or indirectly. In the most sensible passage in the book, he queries the whole concern with the effects of government subsidies on trade, suggesting that we should worry only if the interventions are introduced suddenly and impose acute adjustment costs on outside countries. Perhaps it needs stressing that, from an international trade point of view, subsidies are generally preferable to tariffs and quotas because, when given to import-competing industries, they tend to have less anti-trade bias and because there are built-in limitations in most cases through the fiscal cost. Furthermore, export subsidies do, after all, improve other countries' terms of trade. International trade rules are not an end in themselves, and subsidies may be preferable to tariffs even though it is harder to make rules about them. It is rare that any subsidy, let alone an export subsidy, can really compensate for the removal of a substantial protective tariff. Furthermore, while one can conceive of a developed country without tariffs and quotas, an OECD world without implicit subsidies of some kind seems inconceivable, even if Milton Friedman's nominees were in charge in every country.

A number of papers in this book discuss possible GATT rules on subsidies and all the difficulties in this field. Others describe industrial subsidy policies in various countries—Britain, France, West Germany, the United States, and Japan. The editor analyzes the European Community policy on subsidies in its member nations. The chapter by Nobuyoshi Namiki outlines historically Japanese industrial policy and, in particular, the decline of "Japan Inc." In his view the latter concept is now just a

"myth." I found this the most interesting chapter in the book. In general, this is a useful, if not very profound, book, which fills a gap in the "GATT" literature.

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430 BALANCE OF PAYMENTS; INTERNATIONAL FINANCE

A model of the U.S. balance of payments. By PETER B. KENEN. In association with D. PETER DUNGAN AND DENNIS L. WARNER. Lexington, Mass., and Toronto: Heath, Lexington Books, 1978. Pp. xxiii, 422. $25.95. *JEL 78–1048*

This book presents a detailed model of the U.S. balance of payments, which is then linked to a model of the U.S. domestic economy. These models are utilized in the analysis of the effects on the U.S. economy of changes in U.S. policies and external disturbances. In addition, the linked model is used to evaluate alternative policies for achieving internal and external balance.

Earlier works have analyzed the impact on the balance of payments of changes in economic activity, prices, and interest rates in the United States and abroad. Compared to these, the present study deals more comprehensively with the policy issues related to an open economy. It is an important work in which Professor Kenen has offered a lucid review of the latest works in the state-of-the-art. The book is useful not only to graduate students and scholars of econometric modeling and international economics but also to those interested in the theoretic framework of economic policy in an interdependent world.

Professor Kenen presents in chapter 2 his model of the U.S. balance of payments, along with the simulations that yield the responses of the balance of payments to exogenous changes in income, prices, interest rates, and exchange rates. The domestic model of the U.S. economy is presented in chapter 3 and is simulated to measure the responses of the domestic economy to changes in fiscal and monetary policies. The balance of payments model and the domestic model are then merged in chapter 4 to obtain a model of the open U.S. economy.

The open model is analyzed initially to uncover any major shortcomings, of which there are two. The first concerns the very weak responses of the U.S. interest rates, especially in the short term, to changes in the supply of unborrowed reserves. The second reveals the excessiveness of responses of domestic prices and import prices to fluctuations in the exchange rate. To cope with the first problem, a rule for relating the discount rate to changes in the amount of high-powered money is introduced (p. 169). For the second problem, an alternative measure of the exchange rate is introduced and defined so that the price-influencing exchange rate is allowed to fluctuate within a limit of 25 percent of the actual changes in the exchange rate (p. 185). To take account of the close integration of financial markets, Professor Kenen introduces equations explaining foreign interest rates in terms of domestic capacity utilization rates and the U.S. interest rates, under the assumption that foreign prices and foreign economic activity are not affected by events in the United States. The model described above, which Professor Kenen refers to as the standard version, is subsequently tested and used for analysis in the latter parts of the book.

In chapter 5, the standard version of the U.S. model is simulated to examine how the U.S. domestic economy and balance of payments respond to changes in U.S. fiscal and monetary policies as well as to those in foreign activity and prices. It is noteworthy that although the model is estimated during the period of fixed exchange rates, the model is used to show how the economy would have responded with freely floating exchange rates. A series of rules to govern the mix of monetary and fiscal policies to achieve both internal and external balances is expounded in chapter 6, substantiated by the results of model simulation.

After careful reading, one may agree with the author's candidness about the need for improvement in regard to the existing specifications of some particular equations in the model. Of these, four deserve better focus, since the simulation results and subsequent analysis depend upon them.

The first area for improvement stems from the fact that, while Professor Kenen intends to use portfolio theory to explain capital flows, the majority of the estimated equations follow

something closer to a flow theory of capital movements. Consequently, the effects of changes in monetary and fiscal policies on the capital account are somewhat overwhelmed by continuous-flow effects rather than stock-shift effects (see Branson [1, 1974]). This point is crucial in that these equations tend to bring about longer aftermath effects of monetary policies on capital flows than should be expected from the asset theory of international capital movements. The same comments can be made on the equations for gross fixed capital formation, since it depends on the level of economic activity rather than changes in the level of economic activity.

The second area concerns the results that show the long-run direct effect of changes in the exchange rate on U.S. import prices, which appears too strong to be realistic (p. 16). This is also true of the indirect effects of the changes in the exchange rate, through spot commodity prices, upon wholesale prices, which play a central role in determining domestic prices. This suggests the need for a more thorough examination of the relationships between prices and exchange rates.

Thirdly, the findings of the model show that U.S. short-term rates are not affected very much by the supply of high-powered money, in the absence of the discount rate rule. One possible explanation for this may be that the supply of demand deposits is a residual item and, therefore, does not serve as a determinant of interest rates in conjunction with demand for demand deposits. It might shed more light on the issue if closer examination could be made of the monetary sector together with the mechanisms through which interest rates are determined.

Fourth, foreign activity and prices are treated in the model as exogenous. Although making foreign activity and prices endogenous might have to extend the scope of this work considerably, it would yield the kinds of results one would expect by assuming that the United States is a small country against the backdrops of the entire world commodity markets. This may not be a first-order approximation in the world of growing economic interdependence. Efforts made by the Federal Reserve Board [2, Hernandez-Cata, forth.] and Project LINK [3, Waelbroeck, 1976] to endogenize foreign activity and prices in a systematic manner can be cited as a good illustration on this score.

Of course, all the points elaborated above are but minor ones compared with the many virtues of the book, which covers a variety of international economic policy issues within the premises of relevant economic theory. As such, this study has made a significant contribution to the literature and truly merits a wide audience.

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REFERENCES

1. BRANSON, WILLIAM H. "Stocks and Flows in International Monetary Analysis," in *International aspects of stabilization policies.* Edited by ALBERT ANDO, RICHARD HERRING, AND RICHARD MARSTON. Conference Series No. 12. Boston: Federal Reserve Bank of Boston, 1974, pp. 27–50.
2. HERNANDEZ-CATA, ERNESTO, ET AL. "Monetary Policy under Alternative Exchange-rate Regimes: Simulations with a Multi-Country Model," International Finance Division Discussion Papers No. 130, Board of Governors of the Federal Reserve System, February 1979. In *Managed-exchange-rate flexibility: The recent experience.* Conference Series No. 20. Boston: Federal Reserve Bank of Boston, forthcoming.
3. WAELBROECK, JEAN L., ed. *The models of Project LINK.* Amsterdam and New York: North-Holland, 1976.

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

Multinational corporations and the emerging world order. By LEWIS D. SOLOMON. Port Washington, N.Y., and London: Kennikat Press, National University Publications, 1978. Pp. 261. $16.50. *JEL 79-0168*

Lewis D. Solomon has written a most useful survey of multinational corporations (MNC's) in the present world. The book contains a succinct quantitative description of the MNCs' relative importance in various parts of the globe, in world trade and investment flows, and it excels in presenting a well-balances analysis

of the problems MNC's raise for both their host and home countries.

It becomes clear from Solomon's evidence that the motivation for creating foreign subsidiaries are varied, ranging from growth ambitions of firms, to market share preservation, to tax incentives and to low labor costs. Solomon is critical of the well-known "life cycle" model, since "it fails to account for foreign direct investment by raw material or service firms. . . . Second, the model assumes that innovations originate only in developed nations. Third, not all products follow a cycle of production in the country of origination followed by exportation. . . . The theory . . . does not account for European or Japanese direct investments in the United States" (p. 26).

Considerable space is devoted to an examination of the degree to which the growth of MNC's has resulted in disruptions of socioeconomic equilibrium within national boundaries and of the effectiveness of national economic policies. They may upset countervailing balances within countries. Their appearance might either increase competition, thus benefitting consumers, or "a worldwide pattern of concentration and product differentiation may be extended into a nation, reducing competition and making more difficult the entry of independent, locally owned firms" (p. 53).

The impact on labor in both the MNCs' home countries and in various host countries are shown to be complex. Unions in the former may be weakened by "the ability or the threat of multinational corporations to shift production, temporarily or permanently, from one country to another, the use of different plants in different countries to produce the same item, and the financial ability of global firms to withstand a strike" (p. 57). There are countervailing pressures, however, which reduce the flexibility of firms. Thus, "a corporation desiring to shift production faces a number of costs under local laws, such as severance pay requirements, and transfers of operations may not be possible on short notice as plants may not be conveniently relocated and existing units may lack sufficient excess capacity" (p. 58).

Solomon's analysis of the degree to which MNC's disrupt the effectiveness of national policy instruments is also well balanced. Although MNC's may increase currency instabilities, they are restrained by "a sensitivity to the charge that their currency transfers are a major cause of exchange crises, . . . a desire to balance assets and liabilities in different currencies so as to minimize the risk of loss, and . . . a preference for denominating assets and liabilities in home currencies" (p. 42).

MNCs' effects on less developed countries are thoroughly examined—transfer pricing, introduction of "wrong" technology, negative impact on the development of local entrepreneurship, *etc.* Solomon feels that the trend towards vertical integration of the production process in LDC's may weaken the use of transfer pricing to remit profits in an underhanded way. This may be overoptimistic in view of the recent attempts to diversify exports. These consisted to a large extent of the exportation of semi-finished industrial products by MNC's to their home countries, which increases the possibility for transfer pricing manipulations.

Solomon's discussion of the positive and negative side of joint ventures, of "turnkey" contracts, and of untying technological packages is extremely lucid. The same is true for his analysis of technology, which is full of interesting insights. For instance, he suggests that the desire to diversify exports, *i.e.*, to push manufactured exports, militates against the use of labor-intensive techniques, since "goods produced by means of labor-intensive technology may not be competitive for export purposes" (p. 87).

A number of chapters are devoted to a discussion of various proposals for the international regulation of MNC's. Most have been faced by difficulties of international enforcibility and of obtaining of information for regulation.

The last part of the book consists of a detailed examination of the Food and Agriculture Organisation of the United Nation's Industry Cooperative Program, which has promoted the involvement of agribusiness in LDC's. The case studies presented provide useful insights into the difficulties faced in getting MNC's to operate in LDC's. Solomon found that LDC's "lack the knowledge and expertise to define their problems. Corporations still assist recipient countries in defining problems and suggesting the sale of goods and/or services as part of a

donor government's new thrust to meet basic social problems. A recipient nation presents the project to a donor, with a corporation still getting in on the ground floor. An initial sale of goods or services forms part of a corporation's long-term aim of selling more sophisticated goods and services" (p. 198). There are limits, however, and "multinational firms cannot provide the technology suitable for low-cost, small-scale village industries to produce the chemical, storage and preservation inputs. Concepts like on-the-farm water containers that can be turned into grain storage units will probably emanate from sources other than global firms" (p. 204).

My brief examples are only a small sample of the many topics Solomon analyzes. Among the many books written on the growth and impact of multinationals, this should rank among the most thorough in content and lucid in presentation.

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500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

Growth and finance of the firm: Models of firm behavior tested on data from Swedish industrial firms. By GÖRAN ERIKSSON. Stockholm: Almquist and Wiksell International; New York: Wiley, Halsted Press; for the Industrial Institute for Economic and Social Research, 1978. Pp. 176. $25.00. *JEL 78–1069*

This book is the English version of a Swedish doctoral dissertation submitted at the University of Stockholm. Unfortunately, there has been a long lag between the time the research was completed and the time of publication in English. The theoretic parts of the book are based on works of the 1960's. The empirical work is also based on data from the 1960's. An updating of the book before publication in English would have been desirable. There is no mention of such standard works as those by H. Uzawa [14, 1969], Sergel Dobrovolsky [3, 1971], Eugene Fama and Merton Miller [4, 1972], and Charles Haley and Lawrence Schall [6, 1973], Enrique Arzac [1, 1975], as well as many additional articles in economics and finance journals during this period. Many of these cover substantially the same theoretic ground as does Dr. Eriksson's book.

The basic purpose of the book is to develop and test models that integrate production, investment, and financing decisions for the firm. Eriksson claims that only Douglas Vickers [15, 1968] and Stephen Turnovsky [13, 1970] have dealt with this issue. Actually, the Vickers's approach has been extended and generalized in an important article by Arzac [1, 1975]. In addition, one of the basic points in the work of Vickers, Turnovsky, and Arzac is that all factors have financial requirements not only capital goods. Eriksson follows the more traditional approach of assuming that only capital goods need to be financed. Thus, short-term financing needs are ignored. Instead of following Vickers, Turnovsky, and Arzac, Eriksson's model is based on the steady-state growth models of Myron Gordon [5, 1962], John Lintner [9, 1964], and Eugene Lerner and Willard Carleton [8, 1966]. Although not mentioned by Eriksson, Uzawa [14, 1969], Lintner [10, 1971], and James Herendeen [7, 1975] had developed very similar models. Others dealing with the problem have accepted the "separation" principle (see Fama and Miller [4, 1972, p. 160]), which demonstrates that with perfect capital markets, production and investment decisions are independent of financing decisions and financing decisions are irrelevant to the shareholder.

The model developed by Eriksson includes both rising cost of financing and rising growth costs as determinants of the firm's optimum rate of investment and maximum shareholder wealth. The firm's decision variables include the labor–capital ratio, the leverage ratio, and the pay-out ratio. The firm's current operating decision requires equating the marginal revenue product of labor to the wage rate. The firm's investment and financing decisions require that the firm increase leverage until marginal debt cost is equal to the internal rate of return on total capital and decrease the pay-out ratio until the marginal discount rate (or marginal cost of equity) is equal to the rate of return on equity capital. There are problems with using the pay-out ratio as a decision variable. As is well known, if we ignore taxes and

transaction costs, retained earnings and new issues are perfect substitutes and there is no optimum pay-out ratio. But, more important, the crucial decision is the rate of investment. This reviewer would prefer to use the growth rate of capital itself as the decision variable. The firm must then decide at what rate to add to its capital stock by equating the marginal return from additional capital to the marginal cost of additional funds. It would decide on the optimum financing mix by equating the marginal cost of each source of funds to the marginal return on investment. If there are no new issues, once the growth rate is determined, so is the pay-out ratio. This presumes that the firm faces diminishing returns from additional growth and rising costs of additional debt and equity funds.

In the empirical parts of the book Eriksson tests his model using a sample of 56 Swedish manufacturing firms for the period 1963–70. These results suggest several conclusions. First, profitability is negatively related to the growth rate of sales; second, the equity discount rate is negatively related to pay-out ratio and positively (but weakly) related to leverage; third, the interest rate on debt is positively related to the leverage ratio. All of these results are consistent with the theoretical model proposed. Eriksson's results on profitability and growth seem too extreme. Depending on the model used, a one unit increase in growth leads to a .4 to .5 unit decrease in profitability. This may be due in part to the failure to deflate sales. Thus, the growth rate overstates real growth. Eriksson recognizes the problem, but argues that no general price deflator would be appropriate to individual firms.

Steady-state growth models of this type have gone out of style in the more recent finance and economics literature. The capital-asset pricing model has taken over as the dominant model of security valuation. This model assumes perfect capital markets; the separation principle is accepted and leverage and pay-out decisions become irrelevant. The capital-asset pricing model gives a logically consistent theory of pricing in security markets. It is a general equilibrium model that concludes that differences in yields between securities are due to differences in risk. The risk premium for any individual security is proportional to the risk premium for the market. The model has, in general, been supported by a considerable body of empirical research.

Although the capital-asset pricing model gives us a very elegant theory of security pricing, it tells us very little about the behavior of the individual firm. Such a theory can give little guidance to corporate financial officers whose decisions may be crucial to the survival and growth of the firm. What is missing is the recognition that investors and managers are separate sets of decision-makers, often motivated by different objectives and faced by different sets of information. Will managers necessarily serve shareholder interests? As Fama and Miller [4, 1972, p. 75] point out, this is a question to which economists have yet to provide a completely satisfactory answer.

To my knowledge, only Lintner [10, 1971] has attempted to develop a growth model of the firm that takes explicit account of uncertainty. Nor, to my knowledge, has anyone followed the lead of Vickers, Turnovsky, and Arzac and attempted to develop a dynamic model that takes account of the total financial requirements of the firm.

In summary, Eriksson has provided some empirical support for the basic postulates of the Gordon-Lintner type steady-state growth model. These results suggest that leverage and pay-out decisions may be important to the growth and valuation of the firm. They also support the work of Edith Penrose [12, 1959], Uzawa [14, 1969], Robin Marris [11, 1971], and William Baumol [2, 1967], which view rising cost of growth as an important determinant of the optimum growth rate of firms. They also raise questions about the validity of the "separation" principle. As Fama and Miller [4, 1972, p. 76] concede, ". . . once the assumption of perfect capital markets is abandoned so, in general, is the 'separation' . . . principle. . . ."

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REFERENCES

1. ARZAC, ENRIQUE R. "Structural Planning under Controllable Business Risk," *J. Finance*, Dec. 1975, *30*(5), pp. 1229–37.
2. BAUMOL, WILLIAM J. *Business behavior, value and growth.* Revised edition. New York: Harcourt Brace and World, 1967.
3. DOBROVOLSKY, SERGEI P. *The economics*

of corporate finance. New York: McGraw-Hill, 1971.

4. FAMA, EUGENE F. AND MILLER, MERTON H. *The theory of finance.* New York: Holt, Rinehart and Winston, 1972.
5. GORDON, MYRON J. *The investment financing and valuation of the corporation.* Homewood, Ill.: Irwin, 1962.
6. HALEY, CHARLES W. AND SCHALL, LAWRENCE D. *The theory of financial decisions.* New York: McGraw-Hill, 1973.
7. HERENDEEN, JAMES B. *The economics of the corporate economy.* New York: Dunellen; distributed by Kennikat Press, Port Washington, N.Y., 1975.
8. LERNER, EUGENE AND CARLETON, WILLARD. *A theory of financial analysis.* New York: Harcourt Brace and World, 1966.
9. LINTNER, JOHN. "Optimum Dividends and Corporate Growth Under Uncertainty," *Quart. J. Econ.*, Feb. 1964, *78,* pp. 49–95.
10. ———. "Optimum or Maximum Corporate Growth Under Uncertainty," *The corporate economy: Growth competition, and innovative potential.* Edited by ROBIN MARRIS AND ADRIAN WOOD. Cambridge, Mass.: Harvard University Press, 1971, pp. 172–241.
11. MARRIS, ROBIN. "An Introduction to Theories of Corporate-Growth," in *The corporate economy: Growth competition and innovative potential.* Edited by ROBIN MARRIS AND ADRIAN WOOD. Cambridge, Mass.: Harvard University Press, 1971, pp. 1–36.
12. PENROSE, EDITH. *Theory of the growth of the firm.* Oxford: Blackwell, 1959.
13. TURNOVSKY, STEPHEN J. "Financial Structure and the Theory of Production," *Finance,* Dec. 1970, *25*(5), pp. 1061–80.
14. UZAWA, H. "Time Preference and the Penrose Effect in a Two Class Model of Economic Growth," *J. Polit. Econ.*, July/August 1969 Part II, *77*(4), pp. 1–16.
15. VICKERS, DOUGLAS. *The theory of the firm: Production, capital, and finance.* New York: McGraw-Hill, 1968.

Bank control of large corporations in the United States. By DAVID M. KOTZ. Berkeley and London: University of California Press, 1978. Pp. xi, 217. $11.50. *JEL 78–0764*

This book is concerned with economic power in the United States, but it does not focus on any individual person or corporation. It assumes that the giant corporation is the central economic institution in modern U.S. capitalism. The thesis presented is that bankers are the major group that controls large corporations.

In an unincorporated business, the owner supplies the capital and directs the firm's operation. In the corporation the functions of capital supplier and director of operations are divided among shareholders, bondholders, directors, and officers. The original legal intention was that control over the corporation be held by the shareholders and exercised through an elected board of directors. In practice, it is possible for someone other than the shareholders to control the firm.

For several decades the view most widely held about who controls the major nonfinancial corporations has been the managerial thesis. It holds that large corporations have passed through several stages, culminating in the "managerial corporation." At first, the corporation looked like its noncorporate predecessor. One person of small group functioned as entrepreneur, owning most of the stock and exerting managerial authority. The names of some great entrepreneurs are familiar: *e.g.,* Rockefeller, Vanderbilt, and Carnegie. As corporations grew, majority control grew more difficult and costly. It became common for an individual or group to hold control through a large minority stockholding. Also some financial institutions were able to exert control through their role as supplier of capital to the corporation.

By the 1920's, the managerialists claim that control by the big stockholders and bankers had begun to recede and real control was passing to the corporation's board of directors and senior officers. These managers owned some stock and were able to become self-perpetuating and responsible only to themselves; the managerial corporation reached maturity and predominance in the post–World War II period.

Two developments contributed to the ascendance of the managerial corporation. First, the death of the original entrepreneur and distribution of his wealth among several heirs who were interested in income not control. Second, large corporations generated huge profits, and

they could finance their growth internally without resort to financial institutions. The vacuum left by the stockholders and the financial institutions was filled by the managers.

The widespread acceptance and influence of the managerial thesis are due to the impressive empirical finds of its proponents Adolf Berle and Gardiner Means and Robert J. Larner. However, there is some disagreement among economists (Professors Robert Aaron Gordon, Carl Kaysen, John Galbraith, William Baumol, and Oliver Williamson) about the implications of the managerial corporation for corporate behavior and economic analysis. But Professors Shorey Peterson, Robert Solow, Paul Baran, and Paul Sweezy believe market constraints, shareholder pressure, and business custom enforce traditional profit-maximizing behavior on the managerial corporation. The author maintains that the traditional interpretation of managerial capitalism is not very persuasive and also that if unpropertied managers have control over large firms with significant market power, then departure from classical firm behavior is likely.

The author further states that financial control, so widely recognized in the early part of the century, remains an important form of control today. In the post–World War II period, bank trust department assets, the main basis of the power of financial institutions, have been growing rapidly. Owner control of nonfinancial corporations has been declining. If both these trends continue, financial control will become more widespread. Accordingly, most of the analysis in this book centers on the levers of power that banks and other financial institutions hold over large corporations.

The author examines the 200 largest nonfinancial corporations during 1967–69, finding a substantial proportion to be controlled by financial institutions. He identifies four main groups of financial institutions, primarily based on historical alliances: (1) Chase group (New York): Chase Manhattan Bank, Chemical Bank, Metropolitan Life Insurance Co., Equitable Life Assurance Society; (2) Morgan Group (New York): Morgan Guarantee Trust; Bankers Trust; Prudential Life Insurance Co. (Newark): Morgan, Stanley & Co.; Smith, Barney & Co.; (3) Mellon Group: Mellon National Bank & Trust (Pittsburgh); First Boston Corp. (New York); (4) Lehman-Goldman, Sachs Group (New York): Lehman Bros.; Goldman, Sachs & Co.

The evidence suggests that a range of relationships exists between the controlling institution and the controlled corporation. In some extreme cases, representatives of the financial institution actively supervise the nonfinancial corporation on a continuing basis, *e.g.*, Brown Brothers Harrimann and the Union Pacific Railroad. In some cases, the financial institution may play a relatively passive role for some time and intervene actively as a result of special problems, *e.g.*, Chase Manhattan Bank intervention in 1971 when the Chilean government expropriated Anaconda's facilities.

In other cases a financial institution may exercise its power by giving advice to management or by voting its stock against management's proposals that are submitted to the stockholders. A financial institution may be represented on the board of a non-financial corporation not only by an officer of the financial institution but by a member of a corporate law firm associated with the financial institution, by a retired officer, or by a personal or business associate of a top officer of the financial institution.

Financial institutions also rely on informal pressure. The Securities and Exchange Commission's *Institutional Investor Study Report* states "The financial corporation may threaten to sell its stock in the nonfinancial corporation but seldom does; in fact, control based on stockholdings has become the most widespread form of financial control" [2, 1971].

Proponents of the managerial thesis claim that management controlled corporations "avoid the use of external debt financing in order to preserve management's freedom of action . . . [and] follow the policy of retaining a high proportion of after-tax profits and relying mainly on retained earnings . . . [and] depreciation allowances, to meet the firm's capital needs" (p. 130).

The financial control thesis holds that the financing of large corporations should be done through the use of external debt. In fact, the continuing growth of external debt capital has limited the growth of power of corporate management. A corporation under financial control by a bank cannot choose freely from among

many lenders, but may be under pressure to borrow from the controlling bank and its allied financial institutions.

The rise of financial control in the late nineteenth century was closely associated with declining market competition, *e.g.*, Morgan and the railroads, Morgan and steel. As recently as 1970, the U.S. Department of Justice took the position that financial control may reduce competition, *e.g.*, Cleveland Trust Company and its relationship to Warner & Swasey and three other manufacturers of automatic screw machinery; Chase Manhattan Bank and its control of three airlines, Eastern, Northwest, and Trans World; the Morgan Group control of three paper manufacturing companies, Crown-Zellerbach, International Paper, and Scott paper.

Financial control may affect vertical relationships by "director interlocks, friendship between executives, or the inertia of established practice" (p. 135), *e.g.*, Chase Manhattan Bank is in control of two aircraft manufacturing companies (Boeing and United Aircraft) and three airlines. Regular vertical relationship may constitute a barrier to entry into a market.

In the merger wave of 1898–1903, investment banks played a leading role. The 1960's merger movement largely involved conglomerate mergers. The investment bank profits by finding merger partners, for providing financial advice, and by obtaining the business of new subsidiaries acquired by the nonfinancial corporation. Investment banks were active in the 1960's merger movement, *e.g.*, IT&T and Lazard Freres; Ling Temco Vought and Lehman-Goldman, Sachs; Avco and Lehman Brothers, *etc.*

Commercial banks have become more important than investment banks as sources of control over nonfinancial corporations and have been heavily involved in stimulating mergers, *e.g.*, Chase Manhattan Bank and Gulf and Western Industries, cited by the House Judiciary Committee, Investigation of Conglomerate Corporation [1, 1971]. Chase benefited by having the new subsidiaries transfer checking accounts to Chase, deposit payroll and withholding taxes, and transfer pension and savings plans to the trust department. These relationships affect the rate of merger activity and the degree of concentration in the economy and degree of market competition.

In most cases of financial control by a commercial bank, the basis of the bank's power is the possession by the bank's trust department of a large block of the corporation's stocks. The bank has an interest in the corporation maximizing its profit, just as does a stockholder. The bank may also be a creditor to the nonfinancial corporation and in this case, the bank would prefer cautious, conservative policies that yield long-run profit maximization. These goals are still consistent with owner-controlled corporations. "A manager under financial control who decided to balance the interests of stockholders, employees, consumers, and the general public—Kaysen's 'soulful corporation'—would . . . soon be looking for a new job, in some line of work where 'soulfulness' is more highly regarded" (p. 144).

Few doubt that the leading corporations exercise significant political power on both the state and federal level. The Chase group controls over 10 percent of the 200 largest nonfinancial institutions; the three leading groups based in New York (Chase, Morgan, and Lehman-Goldman, Sachs) control 20 percent of the top 200 corporations. By adding the Mellon group, the two banks in Cleveland and Chicago, there results control of 28 percent of the top 200 corporations.

These groups can determine and influence the allocation of capital over a significant part of the economy; can affect cities and towns by plant shutdowns and new location decisions; can affect the production of consumer products; can affect the balance of payments by buying and investment decisions; and can influence labor policies, introduction of new machinery, *etc.* (p. 146).

Questions about political divisions can be traced to contention between financial groups. The conservative wing of the Republican party has been associated with midwestern financial interests, the moderate wing of the Republican Party with the Rockefeller interests, and some New York Jewish investment banks with the liberal wing of the Democratic party.

In the nineteenth century few would have questioned the proposition that the ultimate power of decision-making over business firms was held by those who invested capital in them. As business firms grew larger and be-

came more complex, the capitalist had to enlist a growing army of experts to help run the firm. Business and engineering schools trained this new stratum of managers.

The managerial thesis implies that a basic change in capitalism has taken place; that the new managerial social stratum, born to serve the capitalists, have effectively expropriated them.

The financial control thesis runs counter to this view; the managerial stratum remains what it was created to be, servants of the capitalists, although well-paid and influential servants. The basis of economic power is not expertise, but ownership and control over abstract capital. Ultimate power resides with the bankers, who are the major stockholders and creditors of the modern large corporation. It is still a plutocracy. The managerial stratum has not expropriated the capitalists. Rather a few of the capitalists have expropriated much of the remainder of their class and other clases as well (p. 149).

The book is a revision of a doctoral dissertation in Economics presented at the University of California, Berkeley, 1975. It is an excellent scholarly work containing over 430 well-documented footnotes. The bibliography is extensive, including the books and articles of leading economists in the fields of industrial organization and regulation, as well as the reports of government agencies and committees, and judicial decisions. The book is well written in clear, concise style. It contains many thought-provoking passages and indicates areas still to be explored by future researchers. The book impinges on several disciplines—anthropology, accounting, banking, history, law, and economics. The book deserves a place in the library of anyone who is interested in the structure of economic power in modern capitalism.

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REFERENCES

1. U.S. CONGRESS, HOUSE JUDICIARY COMMITTEE. *Investigation of Conglomerate Corporations: Staff Report of the Antitrust Subcommittee,* 92d Congress, 1st Session, 1971.
2. U.S. SECURITIES AND EXCHANGE COMMISSION. *Institutional Investor Study Report.* House Document 92-64, referred to the House Committee on Interstate and Foreign Commerce, 1971.

600 Industrial Organization; Technological Change; Industry Studies

620 ECONOMICS OF TECHNOLOGICAL CHANGE

Scientific progress: A philosophical essay on the economics of research in natural science. By NICHOLAS RESCHER. Pittsburgh: University of Pittsburgh Press; Oxford: Basil Blackwell, 1978. Pp. viii, 278. $18.95.

JEL 79-0193

This important book considers the future of research in the natural sciences. The book begins with a consideration of the background of modern natural science and discusses the way in which knowledge has appeared to grow exponentially, until in the midst of the twentieth century there was a general opinion that there were no limits to the possibility of further discoveries in natural science. Newton had written that he felt like a small boy picking up pebbles on a beach when he contrasted his knowledge with the almost limitless ocean of ignorance, and it followed that even an army of small boys picking up pebbles could make very little discernible difference to the size of the ocean. On the other hand, there has been a steady undercurrent of a suggestion that in fact there are diminishing returns in some sense in further expenditure on the natural sciences and that these diminishing returns are due to the inherent problems of knowledge, that is to say, the interaction of mind with the phenomena that are being observed. In other words, the limitation on the development of knowledge is not the finite quality of nature; it is rather that the development of knowledge has in fact become a more difficult process than it once was.

There is a substantial amount of evidence from those who have studied the economics of research and technology that investigation of physical phenomena has become substantially more expensive as the twentieth century has worn on, and there is no great evidence that the rate of discovery or the profundity

of the character of the discoveries has increased proportionately with the rates of expenditure on cost. This is partly because the kinds of science now being most successfully pursued, notably in the exploration of space, in physics, and to a considerable degree the work in microbiology, require exceptionally expensive equipment and considerable numbers of highly trained personnel. It follows therefore that unless there were some principle that the rate of discovery was directly proportionate to the amount of effort that was expended on the process of discovery, the relationship between cost and outcome would deteriorate.

Rescher argues that the quality of scientific findings is also declining relative to the major breakthroughs that have taken place in the past. Rescher does not argue that science is "an inherently finite and self-terminating enterprise"; what he argues is that the principles of science require increasing expenditure on the experimental method as at present used and that there is no reason to suppose that there would be an increase in outcomes.

Furthermore, there is the fundamental relationship between the development of science on the one side and the development of hardware or technology on the other. There is no really significant point in doing a great deal of science if the findings have no technological applications because the work then becomes a series of mathematical expressions on paper with no positive practical means of testing their reality. Therefore a further additional limitation on scientific discovery is the fact that technological innovation in many areas has now become extraordinarily expensive and very difficult. As Rescher says:

> Our theory thus has it that, as science progresses, the realization of new substantial findings requires that the available data-productive capacity must be increased massively. (Pp. 172–73.)

The evidence is overwhelming that many major experiments now being conducted on a regular basis depend upon recent, very expensive technological advance. It therefore follows that if technological advance is slowing down or, possibly as well, technological advance is becoming increasingly more expensive, this will itself slow down the rate of scientific innovation. Examples of this range from telescopes to the enormous number of experimental animals now required for testing biological theories, compared with the simple telescopes of only a century ago and the fruit flies, which were the normal basis of many biological experiments until quite recent times.

Rescher points out that much research is not truly pioneering but re-confirming discoveries already made and that it is work on the frontiers of knowledge that is particularly expensive. Thus the fact that some technology and some ideas appear to have become cheaper in recent times—for example, mini-computers and microprocessors—does not weigh against his fundamental hypothesis. Rescher postulates a Law of Logarithmic Returns in scientific research, which implies a deceleration in the rate of scientific discovery, at least in the present generation.

Rescher concludes his book with a fascinating chapter on the implications and non-implications of a deceleration of science. The argument is that a deceleration in scientific progress will cause a slowing down in the rate of technological progress, and he thinks that the consequence of this may well be a decreasing willingness on the part of public bodies to spend money, particularly on big science.

It is important to emphasise that Rescher himself is not opposed to the hope of progress, and this brilliant book is written in a scintillating spirit of realism and hope.

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630 INDUSTRY STUDIES

Disaster insurance protection: Public policy lessons. By HOWARD KUNREUTHER; with Ralph Ginsberg *et al.* New York: Chichester, England; Brisbane and Toronto: Wiley, Wiley-Interscience, 1978. Pp. xxv, 400. $20.95. *JEL 78-0786*

The book has a foreword by Kenneth Arrow, who states that the "study is path breaking in opening up a new field of inquiry." This evaluation may be on the generous side, but the first Federal Insurance Administrator, George Bernstein does not exaggerate in his introduction when he calls the book "a most gratifying and valuable document."

The book is essentially a report on a large sample survey of homeowners' attitudes toward insurance against damage caused by earthquakes, flooding, and hurricanes. As such it is not very different from the market studies that insurance companies or their trade associations have carried out in different countries—usually for less dramatic forms of insurance. The sample consists of 2055 homeowners and is not unusually large. The questionaire that was used in the interviews does however contain 228 questions and goes far deeper than any market survey.

The statistical analysis of the large set of data is necessarily elaborate. As a first step the author and his associates utilize the whole sample to develop a series of contingency tables to isolate the variables that may be significant in discriminating between insured and uninsured homeowners. Then 75 percent of the sample is used to develop regression equations indicating the relative importance of the variables. Through a process "balanced repeated replication," the study participants determine which of the variables are statistically significant and re-estimate the coefficients. The outcome is a set of relations giving the probability that an arbitrary homeowner has insurance, as a function of age, income, education, marital status, and other variables. As a test this model is then used to make predictions for the remaining 25 percent of the sample, and the results seem very satisfactory. The model can give estimates of the probabilities outside the range 0 to 1, and the author also carries out a series of logit-analyses, *i.e.*, derive regression equations for $\log P - \log (1 - P)$.

It is evident that the author has made special efforts to give an intuitive, nontechnical presentation, but it is not easy to follow his analysis and interpret his *t*-values and *chi*-squares. This is however not a serious objection, since the results of the study are about what one would expect. It appears that most homeowners have only vague ideas about the hazards to which they are exposed, the possibilities of covering the risks by insurance, or if in fact they are covered. Similar results have turned up in many insurance studies. Usually one finds that most people have inadequate coverage, but one will also nearly always find some who clearly are over-insured.

The author notes that few people seem to buy insurance protection against natural disasters, even when it is offered at subsidized rates. On the other hand the same people, through their elected representatives, are willing to give generous relief out of public funds to those who are hit by disaster. There seems to be a contradiction here, and the explanation must probably be sought, as the author indicates, in slow diffusion of information and in the ordinary homeowner's ability to process information that is available. It is however surprising that professionals as banks and other credit institutions do not demand that property that is offered as collateral for loans should be completely insured.

The book is well written and edited, but with many participants in the study, Kunreuther has obviously had difficulties in hamonizing the different contributions. Expected utility is introduced in chapter 3 in a really misleading way. The concept is introduced again, and adequately, in chapter 5 when the relevance to insurance is discussed. The meaning of the concept is made really clear in chapter 7, which describes two laboratory experiments with students at the University of Oregon. The students were asked to bet on drawings from urns and to choose between risks they would have taken if they were farmers. The experiments were well designed and interpreted as insurance decisions, but their relevance in the book is debatable.

The author stresses repeatedly that the study was concerned with rare events. I am not certain if this really is the point. Flooding and hurricanes seem to have higher probabilities than many events that are covered by insurance almost as a routine. The problem is more likely to be one of "moral hazard." Few people buy insurance against natural disaster because they believe that relief will be forthcoming, almost with certainty, if the catastrophe should occur.

The study was carried out in the United States, and the discussion goes back to 1916 when earthquake insurance became generally available in California. The problem is of course older, and insurance against natural disasters has existed for a long time in Europe and Japan, the classical example being insurance against damage caused by avalanches in

the Alps. A book reviewing exclusively the American experience is of course interesting, but it would have been more valuable if the study had taken a slightly broader view. When the participants formulated recommendations for public policy, they might have added a brief survey of how similar problems have been tackled in other countries. The solutions found may not be completely satisfactory, but they represent careful consideration and extensive research, and are worth studying. A reader might have been interested in learning that insurance against damage caused by natural forces is compulsory in Switzerland, as is residential fire insurance in most of the cantons. Apparently a Swiss banker can safely assume that real estate offered as collateral is adequately insured.

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700 Agriculture: Natural Resources

710 AGRICULTURE

Primary commodity prices: Analysis and forecasting. Edited by W. DRIEHUIS. 's Gravenhage, Holland: Rotterdam University Press, 1976. Pp. x, 346. Dfl. 74,90. *JEL 78-0194*

The papers collected in this volume were done as part of the activities of a Working Group on Commodity Prices made up of representatives from five European research institutes. Judging from the editor's introduction, the focus of the group's effort was a biannual short-term forecasting exercise. The interest in forecasting required some attention to the broad features of the commodity markets, touched on issues of international commodity policy, and lead the group to go-gingerly-into econometric modeling of particular commodity markets. This mixture of concerns is reflected in the volume's organization. The ten research papers fall into two broad groups, one consisting of four papers on various "general aspects" of the commodity markets and a second including six papers that deal directly with forecasting of commodity prices.

The first section of the volume opens with an essay (by A. Naini) on the major issues of international commodity policy. This paper is now somewhat outdated and, at a few points, slips from explanation and analysis to advocacy. The remaining papers in the section deal with some of the factual issues that come up in debates on commodity policy. H. E. Chin and D. Perthel compare various commodity prices indexes and very briefly note their implications for fluctuations in commodity prices. This is followed by a discussion of the history of international commodity agreements (by M. Hoffmeyer) and a paper by A. N. R. Schwartz and W. Driehuis that uses a simulation model to explore such questions as the effects of increases in commodity prices on various magnitudes (*e.g.*, revenue) of interest to importing and exporting nations.

The second set of papers is, in effect, a sampler of methods for forecasting commodity prices. This section begins with a report (by G. F. Ray), on an effort to use a survey of expert opinion as a means of forecasting short-term movements in commodity prices. Starting in 1969, the National Institute of Economic and Social Research (London) annually asked individuals involved in the commodity trades to provide their forecasts of changes in commodity prices six and twelve months in the future. Ray's paper characterizes the accuracy of the experts' forecasts for the three years 1970–72, which, not surprisingly, was reasonably good.

The remaining papers in this section use formal, as opposed to judgemental, forecasting methods. W. C. Labys presents a comparison of forecasts computed using seven alternative autoregressive schemes to represent the formation of price expectations. The object of this exercise is to provide evidence on the accuracy of simple forecasting methods, which, in comparison to optimal time-series forecasts, would be cheap enough to use routinely in large numbers of cases. While Labys avoids so bald a conclusion, his results suggest that simple autoregressive schemes are not likely to be satisfactory. Finally, the volume contains reports of four econometric models of commodity markets—sugar (T. Tewes), beef (R. Schmidt), the EEC steel market (J. C. van Beeck), and rubber (H. Kolbe and H. J. Timm). The rubber model is too rudimentary to be of interest, but the other papers contain results that would be of use to those concerned with

modeling the industries considered. However, none of the four models are—or pretend to be—innovative.

The contents of the latter part of the volume clearly invites a comparison of the merits of alternative forecasting methods. The comparison, however, is not provided, and so the reader is left to draw his own conclusions. Moreover, the implicit comparisons in the volume are apt to leave devotees of econometric models unhappy. The four models (which were constructed several years ago) do not come up to what would now be regarded as best practice. Furthermore, only one of the papers presents a forecast, and two of them blur the distinction between historical simulations and forecasts. In general, these four papers give a reasonable impression of some of the major problems that come up in constructing an econometric model of a commodity market, but not a good indication of how these problems are resolved or what econometric models of a commodity markets can do.

The editor's introduction attempts to bring the papers that deal directly with forecasting and those on "general aspects" of the commodity markets under the umbrella of a broad view of forecasting. On this point, the key assertion is that commodity prices, while significant to both firms and governments, are largely beyond their control. If so, policy makers in government and business are in the position of simply reacting to events in the commodity markets. Good forecasts of commodity prices then assume an obvious importance, and a prudent forecaster will pay attention to the structure of the commodity markets and developments of those markets. In fact, however, the premise is weak and, as several of the papers in the volume recognize, the leading policy issue associated with commodities is precisely whether governments should in some way intervene in commodity markets or modify the effects of commodity prices fluctuations on trading nations (*e.g.*, through compensatory financing). Modeling efforts can be, and often are, used to address such questions. In particular, econometric models are used to do forecasts and/or an analysis of costs and benefits or impacts for a range of policy options. Unfortunately, neither the editor's introduction nor the individual papers note this point. As a result, some of the most important roles of econometric modeling efforts are overlooked, and the two parts of the book remain two parts—one on "general aspects" of commodities and a second concerned with commodity price forecasting.

The papers in the volume seem to be designed to give the uninitiated and not technically inclined reader some notion of what is involved in analysis of the commodity markets and forecasting of commodity prices. As the papers are uneven in quality, and the coverage of the volume incomplete, that purpose is only partially satisfied.

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800 Manpower; Labor; Population

Labor in the twentieth century. Edited by JOHN T. DUNLOP AND WALTER GALENSON. Studies in Labor Economics. New York and London: Harcourt Brace Jovanovich, Academic Press, 1978. Pp. viii, 329. $19.50.
JEL 79-0528

This is an account, by a number of well-known writers of labor developments since the beginning of this century in five highly developed countries—the United States (Walter Galenson and Robert S. Smith), Great Britain (A. W. J. Thomson and L. C. Hunter), the Federal Republic of Germany (Hans Günter and Gerhard Leminsky), France (Francois Sellier), and Japan (Taishiro Shirai and Haruo Shimada). An introductory chapter by John T. Dunlop draws together comparatively the essential features of the experiences of these countries.

The studies have a format that facilitates intercountry comparisons of the topics covered—the size and composition of the labor force, trade unionism and its various characteristics including its political role, employers' associations, legislation on labor and welfare matters, collective bargaining and arbitration, wages, prices and working conditions, incomes policies, strikes, and finallly the future outlook on certain industrial relations issues. The weight given to these different topics varies from country to country depending on their relative significance and the availability of sta-

tistical data. In this connection, the chapter on France is somewhat patchy in its run of statistics. The studies are pitched at a nontechnical level. Facts and statistics are analyzed in a way capable of being easily understood by the general reader.

By far the longest chapter (partly because it is repetitive) is on Japan, which has in addition to a detailed statistical and factual analysis of the topics noted above, a valuable discussion of the unique features of Japanese industrial relations: life-long employment, length-of-service system of reward, and enterprise unionism. The view popularized by certain foreign writers that these features are a manifestation of the continuing influence of ancient feudal social and cultural values in industrial relations is politely but firmly rejected in favor of the thesis that the seemingly paternalistic system arose from the requirements of rapid economic development. From the employers' point of view, the economic rationale of these features has diminished in recent years, but its continuance is being pressed, for reasons of employment security and egalitarianism, by the unions whose militancy has also tended to be understated by foreign writers.

Despite historical, political, economic, and cultural differences between the five countries, they share a number of important changes since the early part of this century—the numerical dominance of employees in the labor force, the relative shift of the labor force from agriculture to manufacturing and services, the growth of the public sector, the increased participation of women in the labor force, the increase in real earnings and welfare provision and the reduction in hours of work, the shift in a lifetime from work to education and leisure, the firm hold of unionism in industrial relations, the development of collective bargaining, the increasing role of the "method of legal enactment" in industrial relations and, more recently, the emergence of incomes policy arrangements to deal with chronic inflationary pressures.

Writing about the magnitude of some of these changes, Dunlop points out that they are "without an historical parallel, and such changes do not seem likely to be repeated on the scale of this century" (p. 2). The distinctive arrangements of collective bargaining draws the warning that "there is a serious danger in using the term 'collective bargaining' to encompass such disparate structures unless the differences are fully recognized" (p. 7).

The sections dealing with the future are short and necessarily tentative, but they emphasize the common problems of growth slowdown, inflation, and unemployment; on the last, especially among young persons, women and the unskilled, as well as over-supply of certain types of skill. These problems will test not only the economic and political policies of governments but also the flexibility of the industrial relations systems. On the last point Dunlop is optimistic: "It would be surprising if they did not continue to be in the main pragmatic and tractable" (p. 10).

This book should find a wide international readership among students and general readers of comparative labor relations. It is written in clear and readable style throughout, it is well organized and reasonably comprehensive, and it will not date for some years. The historical perspective, which is a special feature of these studies, will allow future developments to be readily assimilated by readers of this book with the advantage of a balanced understanding of those developments. The book has a particular virtue as a text for university courses because apart from the excellent, but necessarily brief, comparative summary by Dunlop, each chapter deals almost entirely with the problems of one country. The task of drawing comparisons and differences between countries and accounting for them will be a stimulating one for the student.

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820 LABOR MARKETS; PUBLIC POLICY

Unemployment insurance: Global evidence of its effects on unemployment: Proceedings of an international conference held in Vancouver. Edited by HERBERT G. GRUBEL AND MICHAEL A. WALKER. Vancouver: Fraser Institute, 1978. Pp. ix, 388. $12.95.

JEL 78–1152

This volume records the proceedings of a 1976 conference on the effects of unemployment insurance (UI) programs on the unem-

ployment rate. In the introductory paper, Grubel and Walker define the concept of moral hazard and relate it to UI-induced unemployment. Following the approach of Grubel and Dennis R. Maki (whose earlier paper is reprinted in an appendix to the conference volume), a model is developed in which the total unemployment rate *(UR)* is determined by the amounts of structural *(SU)*, seasonal *(TU)*, cyclical *(CU)*, and induced *(IU)* unemployment (see equation 1).

$$UR = g(SU, TU, CU, IU) \tag{1}$$

Structural unemployment is assumed to remain constant over the relevant interval, and the use of annual data in the empirical studies allows seasonal unemployment to be ignored. Since the effects of minimum wage legislation and general welfare programs presumably are disregarded, the focus of the model is on estimating the impact on *UR* of *IU* attributable to the unemployment insurance program (once appropriate control variables for *CU* are included). The model is specified empirically as:

$$UR = h(UIB/AWW; X) \text{ where} \tag{2}$$

UIB/AWW is the ratio of UI benefits to average weekly wages—the variable designed to reflect the magnitude of UI support—and *X* is a vector of variables that reflects the determinants of *CU* (*e.g.*, real GNP). This model, as modified to suit the circumstances of particular countries, provides the basis for most of the econometric evidence presented in the volume.

Modifications of the basic model include (1) the addition of variables to account for the influence of discretionary bureaucratic behavior related to the enforcement of UI eligibility requirements; (2) the inclusion of labor force participation rate variables and adjustments to correct for simultaneous equations bias between these rates and *UR;* (3) adjustments to correct for simultaneous equations bias in the relationship between *UIB/AWW* and *UR;* and (4) additional control variables to capture the influence of circumstances (*e.g.*, migration) that could importantly influence *UR* in particular countries.

In part one Ronald G. Bodkin and André Cournoyer review a number of papers prompted by the liberalization of UI benefits in Canada in 1971, and Daniel S. Hamermesh summarizes the results of several studies of UI-induced unemployment in the United States. Most of the studies considered used a simultaneous equation model of the type described above and were tested with macro data. Bodkin and Cournoyer conclude that liberalization of the UI program in Canada added about one percentage point to the total unemployment rate in 1972, and perhaps greater amounts thereafter. The studies reviewed by Hamermesh also supported the UI-induced unemployment hypothesis, but he is quite critical of these estimates because they are based on aggregate data. It is argued that these types of studies lack an appropriate theoretical basis because the micro-oriented, search-theoretic models are not directly linked to the macro estimates produced by the analysis of aggregate time-series data. Hamermesh reviews a number of other studies based on micro data sets and concludes that the mean duration of individual unemployment spells is increased approximately one-half week for each 10 percent rise in the UI benefits/wage ratio. This estimate is combined with others related to UI effects on labor force participation and the frequency of unemployment to produce an estimate that the availability of UI benefits increased the measured rate of unemployment in the United States by .71 percentage points in 1969.

Part two contains country-specific estimates of the amount of unemployment induced by the UI programs in New Zealand, Sweden, Belgium, Ireland, France, Germany, and Italy; the econometric evidence for all but one of these countries (Italy) is based on a modified form of equation (2) above. An especially useful feature of these papers is the detail they provide on the background and structure of the UI programs in these countries. The econometric evidence does not strongly support the UI-induced unemployment hypothesis. The coefficients estimated for the UI variables are not statistically significant in the studies of New Zealand and Sweden, and the study of the Belgium experience yields statistically significant coefficients for the UI variables for men but not for women (a surprising result). Severe data problems characterize the study of the French experience, and the authors of the German

study themselves expressed limited confidence in their estimates. Using a somewhat different method, the authors of the Italian study concluded that the UI program does not tend to increase the unemployment rate (although some inefficiencies in the structure of Italian industry may result).

The historical studies provided in part three focus on unemployment induced by the British Poor Laws in the nineteenth century and the UI system as it operated during the interwar period. Both studies conclude that the existence of these programs contributed to higher unemployment rates. Also included in part three is a paper designed to test the UI-induced unemployment hypothesis on the basis of pooled data drawn from 16 countries over a five-year period. The econometric evidence, though consistent with the hypothesis, is suspect because of numerous data and model specification problems.

Formal comments and the highlights of informal group discussions about each paper also are recorded in the conference volume. These exchanges provide useful commentary on issues related to the use of micro *vs.* macro data sets, aggregation problems, and appropriate model specification. These discussions constitute an important dimension of the conference volume, and may contribute to the development of more meaningful evidence related to the UI-induced unemployment hypothesis.

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The Kenya employment problem: An analysis of the modern sector labour market: A study prepared for the International Labour Office within the framework of the World Employment Programme, with financial support from the United Nations Fund for Population Activities and the International Development Research Centre. By HENRY REMPEL AND WILLIAM J. HOUSE. Oxford; Nairobi and New York: Oxford University Press, 1978. Pp. xiii, 193. $21.50. *JEL 79–0235*

This book is a useful eclectic sequel to an ILO Report [3, 1972] and constitutes the continuation of ILO's activities in the field of employment that began with the launching of the ILO World Employment Programme in 1969. The point of departure for the research design used by Rempel and House is David Morawetz's [4, 1974, pp. 528–29] identification of the three schools of thought about policy approaches relevant for the promotion of mass employment in LDC's, namely "the price incentive school, the interventionists and the radical reformists" (p. 3). Using this overall framework for analysis, the study rejects (not unexpectedly!) for policy purposes, quite explicitly, the approach associated with the "price incentive school" as well as (perhaps implicitly) the one associated with the "radical reformists." One of its major conclusions is that "at a minimum, the policy formulations of the 'interventionists' school will have to be considered" (p. 180).

Given the data constraints discussed in chapter 1, relatively greater reliance is placed on cross-section rather than time-series analysis, and the authors demonstrate quite admirably the possibilities that can be explored given the limited statistical base. Moreover, a high degree of objectivity and caution permeates the interpretations of the results of the quantitative methods employed.

An analysis of the relevant variables carried out in chapter 2 shows that at the aggregate level, not only has the rate of growth of Kenya's labor force exceeded the rate of growth of employment in the modern sector (a disparity by no means unique to Kenya!) but that "there is not much here to suggest [that] the rapidly growing labour supply has exerted significant downward pressure on wage levels" (p. 24). It is the latter conclusion that provides the basis for much of the analysis in the pages that follow.

In order to analyze further the observed failure of the forces of supply and demand within the modern sector labor market to exert a downward pressure on the prevailing wage-level, chapter 3 examines the extent of labor market segmentation in Kenya at the urban as well as the district levels. The authors make an adjustment for the differences in the "industrial mix" and the "occupational mix" at the regional level by applying the wage normalization technique suggested by Edward F. Denison [1, 1957] in his critique of the approach used by Frank A. Hanna [2, 1957]. The results show that (i) the regional disparities in wages

paid even for a relatively homogeneous occupational category as unskilled workers are significant, (ii) the extent of labor market segmentation is greater at the level of 34 administrative districts compared to the 10 urban centers, and (iii) competitive forces have not been able to narrow down the intra-occupational interdistrict wage differentials.

Since competitive forces fail to influence the wage-level in the expected direction, the authors incorporate in chapter 4 a discussion of the possible determinants of the prevailing wage structure in Kenya. Subject to the appropriate caveats, some suggested institutional factors are: (i) a wage structure inherited from the colonial era, (ii) the influence of the government as a wage leader because of its role as a major employer as well as the promulgator of minimum wage regulations, (iii) the role of organized labor, and (iv) the wage policies of a few dominant firms, employing a highly capital-intensive technology and enjoying a privileged product market position.

Empirical tests to determine the role of competitive forces and the tentative hypotheses suggested in chapter 4 in the context of the manufacturing sector are described in chapter 5. The principal findings are: (i) wages have not responded to changes in the supply of labor as one would expect if competitive forces were to operate effectively in Kenya; (ii) the trade unions may have exercised some influence in the outcome of the negotiated wages in the modern sector, but "the degree of unionisation is not able to explain interfirm unskilled wages" (p. 113); and (iii) the public enterprises are not wage leaders in the employment of unskilled labor. The three institutional factors that do influence the wage-level in an ascending order of relative importance are: (i) minimum wage laws set by the government, (ii) the wage structure inherited from the colonial era, and (iii) foreign-owned firms enjoying considerable market power. These firms are willing to pay a wage exceeding the supply price of labor because of its impact on labor productivity; such behavior is, therefore, consistent with the objective of profit maximization.

"Given the thesis that emerges from the study—wages in a subset of firms in the modern sector are determinative for the whole economy" (p. 9), the authors have presented in chapter 6 an outline of the negative consequences of such institutional arrangements from the standpoint of economic development, "especially if the firms are foreign-controlled and operating primarily within an import-substitution framework" (pp. 173–74). The major adverse effects have been spelled out in terms of (i) interfirm and intersectoral relationships, (ii) the disposal of domestic savings, and (iii) the impact on the level of "human aspirations and work effort" of workers who do not belong to the elitist segment of the labor force. In its own way, not only does the discussion reflect the simple fact that the tricks of development are not all that easy (modifying a little, W. W. Rostow's famous statement [5, 1960, p. 166]), but it illustrates at the same time the pervasive conflict between growth and distribution.

The final chapter presents a "Summary and Conclusions," and the book includes a very helpful bibliography of the relevant literature. It is a book that can be readily recommended for courses dealing with dual economies in general and African economies in particular.

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REFERENCES

1. DENISON, EDWARD F. "Comment [on Analysis of Interstate Income Differentials: Theory and Practice,]" in *Regional income: Studies in income and wealth.* Vol. 21, National Bureau of Economic Research, Conference on Research in Income and Wealth, Vol. 21. Princeton: Princeton University Press, 1957, pp. 161–79.
2. HANNA, FRANK A. "Analysis of Interstate Income Differentials: Theory and Practice," in *Regional Income* (see [1, 1957]), pp. 113–61.
3. INTERNATIONAL LABOUR OFFICE. *Employment, incomes and equality: A strategy for increasing productive employment in Kenya.* Geneva, ILO, 1972.
4. MORAWETZ, DAVID. "Employment Implications of Industrialisation in Developing Countries: A Survey," *Econ. J.*, Sept. 1974, *84*(335), pp. 491–542.

5. ROSTOW, W. W. *The stages of economic growth: A non-communist manifesto.* Cambridge University Press, 1960.

830 TRADE UNIONS; COLLECTIVE BARGAINING; LABOR-MANAGEMENT RELATIONS

A worker in a worker's state. By MIKLÓS HARASZTI. Translated by MICHAEL WRIGHT. Foreword by HEINRICH BÖLL. New York: Universe Books, [1975] 1978. Pp. 175. $7.95. *JEL 79–0540*

This is a sensitive book about the sociology of work in a tractor factory near Budapest. The author transcends the traditional limitations of his genre and, as Heinrich Böll notes in his introduction, creates an almost lyrical work. This could be accomplished only by an author whose solidarity with the proletariat is as intense as Haraszti's. Throughout this introspective drama, the reader can vividly picture the author by his milling machines, no doubt greasy, nervous, and exhausted, earning a subsistence wage.

The piece rate system is at the core of the workers' dissatisfaction and is the means by which the author holds that they are exploited and dehumanized. Calculated at a minimal hourly wage, the rate is unattainable by working at the prescribed level of safety and desired quality of goods. In order to earn an acceptable wage the workers are forced to compromise the quality of the products and endanger their health by "looting"—operating the machines at a faster than prescribed speed. Since most of the workers are operating two machines simultaneously, the faster than optimal pace creates tension. Haraszti's description of this process is memorable (p. 47):

> The accelerated pace brings on an extreme state of nerves. My eyes are transfixed by the hail of sparks; my whole body strains towards the lever; sometimes I can't bear the tension any longer and pull too soon. The machine trembles and shrieks. The excessive stress on the material induces ominous knockings and vibrations. Their crescendo induces in me cramps and waves of guilt and fear. My torpid concentration collapses.
>
> I concentrate on one machine. The other . . . comes to the end of its operation; the milling disc hits against harder material and breaks, making an infernal din. The broken milling teeth shoot past my head like bullets. I stop both machines. My inner trembling gets the better of my hands.

Is it not ironic, comments the author, that the "man who creates wealth is compelled to work in a way which destroys the quality of that which he produces, and his own health as well." In short, Marx's call for the humanization of working conditions appears to have been compromised by his followers.

The tension of work under the piece rate system creates an immense schism between the workers and the management, but it does not create a cohesive sense of identity among the laborers themselves. Comradery is non-existent. The only concern one worker has for the other is "jealous suspicion" that someone is getting better jobs. The relationship between the ordinary workers and those who are not on a piece rate is even more explicitly degenerate. The milling instructor who initiates Haraszti into the factory etiquette is less interested in transfering knowledge to the apprentice than in producing a few extra finished pieces to supplement his fixed renumeration. The setteers whose task is to help in adjusting the machines on the more complex runs are also on a fixed hourly rate. The absence of a pecuniary incentive to aid the piece-rate workers' efficiently renders their presence of little value. "Do not ask for help; it will only hinder you," is rumored, but Haraszti has to learn the hard way.

The foreman is callous and cares little for the well being of his subordinates. He even fails to mention the availability of supplementary wages on some extra difficult jobs. In fact, the foreman is more powerful than his capitalist counterpart because the union representative is a mere strawman and because he has been delegated responsibilities that affect the workers' life outside the factory. They "write character reports . . . for any arm of the state which requests them" in case the worker petitions for further training or requests a passport. When the foreman denied Haraszti a day off, even consulting the union contract, itself an extraordinary act, did not help.

The authoritative organization of the factory

leads to a rigid social stratification. According to the author, "everyone who is not a worker has the institutionalized possibility to humiliate the workers." The clerk does not earn more than the workers. Yet because she is in a position of power to dispense favors she is high handed. She would never ask a worker for a convenient time to discuss a problem in calculating the pay. "Instead she tells me when I must come and sends me away if it turns out to be" inconvenient for her. The worker must defer to the foreman or the head foreman as a serf of past centuries might have approached his landlord. "A forgotten thank you can cost one dearly" in the future.

The worker is totally alienated from his surroundings. He derives satisfaction neither from his work or his association with the people with whom he works. In order to attenuate their frustration and indulge themselves in a few moments of creativity the workers make gadgets for their own use. The passion for making these "homers" is widespread, even though the opportunity cost is substantial and the trinkets are seldom useful.

The alienation gives rise to a distinct vocabulary. By "them" the workers mean whoever is above, far away socially, "outside the power of whoever is speaking." One old timer defined it when pressed as "the union, the company, the whole damn lot." Dropping "they" or "them" for "we" or "us" is the first sign that the individual has upwardly mobile aspirations.

The alienation, the social stratification, and the inadequate pay are characteristics of this factory that bring to the reader's mind Engels's description of the condition of the English working class in 1844. Even the safety standards are comparable. A request for safety glasses, asserts Haraszti, would have been perceived as being tantamount to sabotage.

The author's description invites the conclusion that in the absence of a competetive and well-functioning labor market an independent union is needed to protect and advocate the rights and interest of the working class. Without such institutional safeguards the people who govern in the name of the proletariat do so only rhetorically. After all, "complex arguments about who owns the means of production," suggests Haraszti, "are empty talk."

A partial transcript of the trial of this socialist dissident is appended.

The book might be used to advantage in a variety of courses, such as comparative economic systems, labor relations, labor problems, industrial organization, and industrial sociology.

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840 DEMOGRAPHIC ECONOMICS

Population decline in Europe: Implications of a declining or stationary population: Proceedings of a seminar held by the Council of Europe, Strasbourg, 6–10 September 1976, New York: St. Martin's Press, 1978. Pp. x, 254. $35.00. *JEL 79–0242*

This book is a set of papers about the implications of the current fertility rates in Western European countries. This book was prepared for a Council of Europe Seminar in 1976 and is intended largely for bureaucrats rather than economists. It contains many sound statements about particulars. But its overall thrust is importantly wrong, in this reviewer's judgment.

The papers are as follows: "Preface," Eugene Grebenik; "The Demographic Background," Pierre Guilmot; "The Working Population," Hilde Wander; "Economic Growth," Denis Maillat; "The Family," Max Wingen; "Welfare," David Eversley; "The Influence of Governments," Paolo De Sandre; "Migration and Redistribution," Mario Sica; "The Control of Fertility Trends," Gérard Calot and Jacqueline Hecht; "Illusions about Attitudes," John Simons; "Towards a Population Policy for Western Europe," Dirk J. van de Kaa; "A Review of the Prospects," Guillaume Wunsch.

The most useful elements of the book for this reviewer are: (1) The analysis of surveys of attitudes about fertility, by John Simons, presents a variety of data that constitute a convincing criticism of the conclusions drawn from such surveys. He suggests that at the present state of the art, little can be learned from such surveys that is helpful for policy-making purposes. (2) Eversley's review of the possible effects of low fertility on education, housing, and social services raises a variety of interesting and subtle issues that are seldom men-

tioned, if ever. Most of these effects are potential problems of windfalls, which the economy and society may or may not dissolve away by economic and political forces. To show their validity and importance convincingly would require empirical testing rather than arithmetic speculation, however. (3) Useful data on trends in working and dependent proportions of the populations of the various Western European populations are given in the articles by Guilmot and Wander.

Much of the book is discussion without supporting data of one or another consequence, taken by itself, of declining fertility. As a vehicle for educating bureaucrats, the book may have its uses. But viewed in relation to the existing literature, the book does not advance our knowledge. Its themes have mostly been stated many times, perhaps best by William Reddaway in his *Economics of a Declining Population,* [1, 1939].

The book begins with the propositions that "our planet" is finite and that population growth cannot continue indefinitely. (Please notice that though these propositions are apparently obviously true, they are really unexplained and unproven, neither testable nor provable as commonly stated; they are best regarded as intuitions or prejudices.) The book concludes that low or zero population growth will not affect economic growth and that the resulting demand effects would not be important in the short run, though there would be longer-run effects on construction and health services. And it questions whether savings would be affected by a decline in population growth. The effect of age structure on productivity is also said to be unimportant.

The main effects of slower population growth that the book suggests would occur are improvements in the per-person supplies of housing, education, environmental facilities, and social services. It does foresee some distributional problems that may offset these expected positive effects, however.

A dangerous shortcoming of the book is that while the discussion may be correct in some of the *partial* analyses of the elements it takes up, the *overall* analysis of the economic effect of declining population is entirely wrong, in my judgment. (The reader is hereby warned that the argument to come is a minority view, but I believe it to have strong empirical and theoretical support, as discussed at length in Simon [2, 1977, Chs. 4–6].)

The immediate effect of an additional birth is some community cost for schooling and other child services, but this cost is not large by any measure; the parents pay for most of the child's support, and by choice.

In the intermediate run, there is a negative capital-dilution effect when the additional person enters the labor force, thereby lowering the incomes of others. But the negative capital-dilution effect is substantially offset by the transfer payments from the additional worker to already-retired persons.

In the longer run, the immediate and intermediate-run effects are dwarfed by the positive effect of the additional person on productivity increase. Some of this increase in productivity comes from conventional economies of scale. But the larger part apparently arises from the nexus of more human beings to think up better ways of doing things, and bigger markets and larger total output to induce both R&D and spontaneous learning by doing. On any of a variety of assumptions, an additional person's net impact on the incomes of others begins to be positive within one or a few decades of his or her entrance into the labor force. If one takes into account this all-important effect of people on productivity, a lower birth rate today has clear negative implications for the incomes of future cohorts of people.

A dollar of costs today must, of course, be weighted differently than a dollar of benefits thirty years from now. Hence the discount factor is crucial in deciding whether a lower birth rate now is good or bad, on balance. But when we choose a discount factor, it might be appropriate to remember that we today are the beneficiaries of long-ago social investments in children that would not have been made if the future had then been discounted heavily. Some measure of unselfishness should impel us, too, to use a generously-low discount in our assessments of the present value of the additional child that will, on average, mean immediate subtractions from, but much larger long-run contributions to, the incomes of others.

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References

1. Reddaway, William B. *Economics of a declining population.* New York: Macmillan, 1939.
2. Simon, Julian L. *The Economics of population growth.* Princeton, N.J.: Princeton University Press, 1977.

Facing zero population growth: Reactions and interpretations, past and present. By Joseph J. Spengler. Studies in Social and Economic Demography. Durham, N.C.: Duke University Press, 1978. Pp. xiv, 288. $18.75.
JEL 79–0247

This is vintage Spengler; a further look at some of the fundamental economic, social, and demographic trends and issues he has been concerned with for more than 40 years. But not a "summing-up" or a restatement; a new and completely fresh treatment of the impact on social and economic institutions of changing rates of population growth, and also of human reactions and responses to these interactions.

We can do no better for a summary than to quote from the introduction:

> This study is concerned with modern man's reaction to limits to economic growth and to population growth under diverse conditions, with his assessment of the economic implications of cessation of population growth, and with problems associated with adjusting economies to cessation of population growth. For purposes of analysis of these implications much use is made of American data and of probable concomitants of cessation of growth of the United States population. The findings may be applicable, of course, to other countries.
>
> In view of the likelihood that populations of advanced countries will become roughly stable at rates of growth in the neighborhood of zero, the first four of the ten chapters constituting this study are devoted to the historical and ideational setting of the present state of demographic affairs. The concepts and preconditions of stationariness of populations and economies are described in the first chapter. In the second chapter it is shown how conditions affecting demand for population have undergone major changes in the course of man's history. In the next two chapters reactions to the slowing of population growth in the course of the past century are reviewed, and the threat of depopulation is touched upon.
>
> Chapters V–VII deal with the genesis of the age structures associated with stable populations experiencing little or no growth or decreasing. The coming into being of such age structures presents problems that have been accentuated by modern and usually institutionalized conceptions of adulthood, together with the presence of a relatively large number of persons over 65. Major attention is focused on adjustments essential to rational economic accommodation to population aging, lest poverty and unemployment comes in the wake of a marked increase in the relative number of persons over (say) 55.
>
> Chapter VIII is devoted to interaction between population growth and economic growth. In Chapters IX and X economic problem areas sensitive to the state of population growth are examined along with international implications of cessation of population growth in the present world.

Chapters II through IV actually constitute a fascinating history of economic ideas about the population question in the neoclassical period. His review of the interwar population debates—Keynes *vs.* Beveridge, the Stagnation Theses of Hansen, and others—is concise but revealing. These chapters are a very solid contribution to the history of population thought. In this section, as throughout the book, the main interest is in the theoretical response to the prospect of declining population growth. Chapters VI through IX constitute judicious summaries by the author of recent research on the interaction between declining population growth and the economic prospect. Changes in the age-structure are the key demographic element seen as affecting the labor force/population ratio, savings/investment, output growth and composition, and vertical and horizontal economic mobility in the system.

In his concluding chapter and an Epilogue, Professor Spengler reaches essentially optimist, positive conclusions about the likely shape of the economy that will be produced by a zero-growth stable-age distribution population situation. But his optimism rests upon the belief that American institutions and policies are capable of flexibility and of reasonable speedy responses to new problems as they emerge. "Coping with the problems of a stationary population may thus be said to depend

ultimately upon the adaptability of an economy's mechanisms of adjustment to the maintenance of adequate flexibility, together with the flow of information respecting wants method of production and price behavior" (p. 185).

He does express some concern over particular issues—such as illegal immigration to the United States from the bottomless demographic well of Mexico—but still ends on a confident note that "trained common sense" can solve most problems. One can but admire Professor Spengler's optimism, even if one cannot share it.

Overall then, Professor Spengler's book is a survey and summary of the economic implications of zero population growth, past and present theoretical views thereupon, and future real prospects for the United States. Spengler summarizes, interprets, and freely inserts his own opinions and views which, to this reviewer, are welcome. This book (and its 30 page bibliography) are an excellent place for anyone interested in this topic to begin their reading.

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900 Welfare Programs; Consumer Economics; Urban and Regional Economics

920 CONSUMER ECONOMICS

Consumer behavior in Latin America: Income and spending of families in ten Andean cities. By PHILIP MUSGROVE. An ECIEL Study. Washington, D.C.: Brookings Institution, 1978. Pp. xxiii, 365. $16.95. *JEL 79–0272*

This is a careful statistical analysis of the data obtained by ECIEL Program of Joint Studies on Latin American Economic Integration through household budget surveys conducted in ten cities of five Andean countries between 1966 and 1969.

The micro approach to problems such as consumption and saving, which constitute the essence of Musgrove's book, is a valuable complement to the macro approach to such problems. This is so sometimes because of the deficiency of aggregated data and always because it is possible to view those problems from different angles. Moreover, without disaggregated information it is not possible to deal with such other problems as those relating to the distribution of personal income, on which Musgrove also focuses.

Even admitting that an occasional survey conducted in just a few cities—in some cases only one—of the countries studied may not be very representative, ECIEL's contribution can be, and I think is, extremely important. It should be borne in mind in this connection that in Chile, for example, as late as 1970 the demographic census did not include questions relating to income (see OAS [2, 1977]).

The ECIEL data served as a basis not only for the book I am reviewing, but for other studies as well, some of them also written or cowritten by Musgrove. A list of these studies appears in a bibliographic note included in chapter 1, which also contains an explanation, elaborated on in Appendix A, of the procedure followed in preparing the statistical information.

Chapter 2 is devoted to an analysis of the distribution and composition of income. This analysis is based almost exclusively on cross-classifications of some measure of income and several population characteristics. Since such characteristics are numerous, the analysis becomes heavy. The weight is lightened considerably thanks to the regressions included at the end of the chapter, with the aim of explaining income as a function of some "determinants," the most important of which is education. In these regressions, as in many others throughout the book, some variables are used in qualitative form even when it is possible to express them quantitatively (for example, education, age, size of household) in order to allow the relation involved to take a piece-wise linear form rather than force it to behave according to a predetermined pattern.

As regards the degree of concentration of income, the author finds small, but statistically significant, differences among the ten cities. On this point, an analysis of the causes of this concentration is lacking—an analysis that would have permitted conclusions more concrete than those appearing in the book (on page 236). For the United States, analyses of this kind were made in the 1960's (see A. Al-Samarrie and H. P. Miller [1, 1967] and A. Roldán [3, 1964]).

The discussion of chapter 3 on the use of income for consumption and saving is excellent. The author approaches the problem by using, first, average propensities to consume; next, both consumption and saving functions; and, lastly, by breaking down total saving into asset categories. The independent variables used to estimate the consumption and saving functions are income—whether current, normal, permanent, or residual—and a few population characteristics. According to the specification of the functions, the parameters estimated are propensities or elasticities. Among the results of the study, the following merit special mention: (1) average saving in the ten cities does not exceed 5 percent; (2) the bulk of saving is effected in the form of durable goods—acquisition of which is boosted by inflation—and housing; (3) saving of other types, especially financial saving, is limited to very few households in the high income brackets; (4) the elasticity of consumption with respect to permanent income is greater than that with respect to current income but less than one except at both extremes of the income scale.

In chapters 4, 5, and 6 the author discusses the distribution of the household budget, among categories of consumption, as a function of characteristics of the population or the sample. The major part of the discussion in chapters 4 and 5 compares the shares of the budget corresponding to expenditure categories with the population or sample characteristics referred to, using tables of double entry—including 40 that appear in Appendix C. The author uses a few regressions to explain the differences in budget structures between pairs of cities, principally as a function of differences in income.

One of the sample features used in the discussion of chapter 4 is the trimester of the survey, and based on it the author draws conclusions on seasonal behavior. Since in this part the analysis is made on the basis of mean expenditure shares for each city, there is only one observation per trimester, which does not support the conclusions referred to.

Chapter 5 contains information on markets that is very useful to national planners and private investors, particularly if this information is combined with that on income distribution and with estimates of economic and demographic growth. The author arrives at an identification of the households, classified by income quartiles, which make up the market for given goods and services; he also estimates expenditure per person, which varies with the size of the household, on food, housing, and clothing. Musgrove devotes some paragraphs to an examination of the effect of the number of children on variables such as per capita income and the composition of the diet.

In chapter 6 the author presents Engel curves estimated on the theoretical and methodological bases explained in Appendix B. Since the best statistical fits correspond to the double-log model, this is the specification most frequently used, though on some occasions the linear specification is also used. The independent variables of the functions are total consumption (in a variation of the linear model, income is used instead of total consumption) and the population characteristics employed in the analysis of the preceding chapters.

Within the double-log specification, the sum of the partial expenditures is not equal to total expenditures except at the point of means and that only approximately. The author justifies this deficiency of the model by adducing (p. 283) that strict satisfaction of the equality implies that all elasticities must be unitary and that the global sum of the exponents of *e* (including the coefficients of the qualitative variables) must be equal to one, an implausible condition indeed. It should be taken into account, however, that this condition is sufficient but not necessary, so that more plausible conditions could be found to satisfy the equality at any level of income.

In chapter 7, besides the salient results of his study, the author suggests possible applications of it and avenues for further research based on the ECIEL data, of which he has made a very profitable use.

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REFERENCES

1. AL-SAMARRIE, AHMAD AND MILLER, HERMAN P. "State Differentials in Income Con-

centration," *Amer. Econ. Rev.*, March 1967, *57*, pp. 59–72.

2. ORGANIZATION OF AMERICAN STATES—INTER-AMERICAN STATISTICAL INSTITUTE. *Programa del Censo de América de 1970 (Cota–1970). Censos de población: temas, definiciones, clasificaciones y cuestionarios utilizados por los países de la región americana*, Washington, D.C.: Secretaría General de la Organización de los Estados Americanos, 1977.
3. ROLDÁN, ALFREDO. "Education and Income Distribution," *Econometrica*, Oct. 1964, *32*, p. 673.

New Books: An Annotated Listing

Classification System for Books

000 General economics; Theory; History; Systems
- 010 General economics
- 020 General economic theory
- 030 History of thought; methodology
- 040 Economic history
- 050 Economic systems

100 Economic growth; Development; Planning; Fluctuations
- 110 Economic growth; development; and planning theory and policy
- 120 Country studies
- 130 Economic fluctuations; forecasting; stabilization; and inflation

200 Quantitative economic methods and data
- 210 Econometric, statistical, and mathematical methods and models
- 220 Economic and social statistical data and analysis

300 Domestic monetary and fiscal theory and institutions
- 310 Domestic monetary and financial theory and institutions
- 320 Fiscal theory and policy; public finance

400 International economics
- 410 International trade theory
- 420 Trade relations; commercial policy; international economic integration
- 430 Balance of payments; international finance
- 440 International investment and foreign aid

500 Administration; Business finance; Marketing; Accounting
- 510 Administration
- 520 Business finance and investment
- 530 Marketing
- 540 Accounting

600 Industrial organization; Technological change; Industry studies
- 610 Industrial organization and public policy
- 620 Economics of technological change
- 630 Industry studies
- 640 Economic capacity

700 Agriculture; Natural resources
- 710 Agriculture
- 720 Natural resources
- 730 Economic geography

800 Manpower; Labor; Population
- 810 Manpower training and allocation; labor force and supply
- 820 Labor markets; public policy
- 830 Trade unions; collective bargaining; labor–management relations
- 840 Demographic economics
- 850 Human capital

900 Welfare programs; Consumer economics; Urban and regional economics
- 910 Welfare, health, and education
- 920 Consumer economics
- 930 Urban economics
- 940 Regional economics

Annotated Listing of New Books

Editor's Note

Our policy is to annotate all books which are sent to us. On rare occasions, when a book has been published and brought to our attention but we have not received it from the publisher, we will write and request a copy. In future, if a book is published and would be of interest to our readers and an annotation does not appear six months after the publication date, please write to us concerning the book. Our staff is too small to monitor and order all books that are published here and abroad.

000 General Economics; Theory; History; Systems

010 General Economics

ALBRECHT, WILLIAM P., JR. *Economics.* Second edition. Englewood Cliffs, N.J.: Prentice-Hall, [1974] 1979. Pp. xvi, 751. $16.95. *JEL 79-0593*

Revised and updated introductory text [see *JEL no. 74-0932* for previous annotation]. Includes seven new chapters and stresses, more than the first edition, a general equilibrium approach to economic analysis and policy by focusing on energy, international economics, the role of government, and efficiency and equity. In six parts. Includes two commentaries applying concepts at the conclusion of each chapter. The author is at the University of Iowa. Glossary; index.

ALBRECHT, WILLIAM P., JR. *Macroeconomic principles.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. ix, 406. $9.95, paper. *JEL 79-0594*

Undergraduate macroeconomics textbook. Topics covered include: the market system; national accounts; business cycles; employment; equilibrium; fiscal policy; prices, money, and banking; stagflation; growth; development; and international trade and exchange. Provides commentaries highlighting applications of material presented. The author is Associate Professor of Economics at the University of Iowa. Index.

AYRES, ROBERT U. *Uncertain futures: Challenges for decision-makers.* New York; Chichester; Brisbane and Toronto: Wiley, Wiley-Interscience, 1979. Pp. xviii, 429. $19.95. *JEL 79-0595*

A futurist book—evaluates current qualitative and quantitative trends in global demographics, economics, and technology and their possible implications for the future, from the perspective of a broad spectrum of fields. Attempts "to achieve a useful amalgamation of the specialist's knowledge and the generalist's sense of balance and perspective." After briefly discussing methodological issues in forecasting and the pro-growth/anti-growth debate, the author turns to measures of man, of the environment, and the scenarios. Among the measures of man, he discusses: values, demographic characteristics, energy and food consumption, the role of human institutions in realizing technological possibilities; the environmental measures refer to the degradation or exhaustion of natural resources. Devotes final chapter to three possible future scenarios: a world energy crisis in the mid-1980's; a world food crisis in the 1980's; and U.S. withdrawal into isolationism, uncontrolled nuclear proliferation throughout the world, and political/economic crisis in the U.S.S.R. Argues that the "motive power of civilization . . . is derived largely from the resolution of conflicts between societal goals" and that the next 50 years will be the "declining decades of the age of democracy . . . because of its inability to cope . . . in a world in which there are no longer easy solutions where 'everyone can win'." The author is Professor of Engineering and Public Policy at Carnegie-Mellon University. Index.

BOULDING, KENNETH E. *Ecodynamics: A new theory of societal evolution.* Beverly Hills and London: Sage, 1978. Pp. 368. $15.00. *JEL 79-0596*

Contends that evolution itself evolves—that the evolutionary process is a "process in the increase of knowledge or the information structure" of the universe. A major thesis is that organisms possess "know-how," involving the structure's ability to instruct. Know-how extends to elements of the societal system, such as organizations, and to the physical-chemical system ("in a certain sense, helium 'knows how' to have two electrons"), as well as to the biological system (genetic). Sees the pat-

tern of human development as an extension, enlargement, and acceleration of the pattern of biological development, through mutation and selection. Focusing on human history and the patterns in it, the author discusses the pattern of the universe; physical, population, and ecological dynamics; biological and societal evolution; "the threat system" (weapons); exchange as a social organizer; the integrative system; an evolutionary interpretation of history; power in society; dialectics and evolution; evaluative change; limits; religion and ethics; and predictions of the future. The author is Distinguished Professor of Economics, University of Colorado; Director of the Program of Research on General Social and Economic Dynamics in the University's Institute of Behavioral Science; and (as of 1978) President-Elect of the American Association for the Advancement of Science. Bibliography; index.

FLETCHER, MAX E. *Economics and social problems.* Boston and London: Houghton Mifflin, 1979. Pp. xiii, 494. $10.95, paper. *JEL 79-0597*

Introductory textbook designed for use in a one-semester or one-quarter course in economics for non-majors. Introduces the economic way of thinking; the major economic problems; the rudiments of macroeconomic and microeconomic theory; specific problems such as inequality and education, race, sex, energy, environment, health care, and urban decay; the world economy and developing nations; the question of government regulation; and Marxism and the Soviet system. Following each chapter is a summary, a listing of important terms, questions, and suggested readings. Instructor's manual available. The author teaches at the University of Idaho. Index.

GAPPERT, GARY. *Post-affluent America: The social economy of the future.* New York and London: Franklin Watts, New Viewpoints, 1979. Pp. xiii, 242. $12.95, cloth; $6.95, paper. *JEL 79-0598*

Outlines the transition toward and the probable economic and social characteristics of America's anticipated "steady-state" society and slow growth economy during the next 50 years. Argues that the future problems are not economic in the Keynesian sense, but are "social and personal in nature." Part one outlines the issues around America's economic future; part two reviews policy concerns and options, stressing job redesign and work satisfaction; part three, entitled "Roadmaps to the Future," presents social development options for the individual and for the economy. The author, Assistant Commissioner of Education for the Division of Research, Planning, and Education for the State Department of Education in New Jersey, argues that "with the growing entanglements of runaway regulation, the federal government should reduce and improve its regulation, expand its planning, and provide incentives to social and economic experimentation." Index.

GERSHUNY, JONATHAN. *After industrial society? The emerging self-service economy.* Atlantic Highlands, N.J.: Humanities Press, 1978. Pp. viii, 181. $15.75, cloth; $6.50, paper. *JEL 79-0599*

Critical evaluation of the "forecast of a liberal and humane future" given in four popular accounts by Ralf Dahrendorf (*The New Liberty*, 1975), Daniel Bell (*The Coming of Post-Industrial Society*, 1974), E. F. Schumacher (*Small is Beautiful*, 1973), and J. K. Galbraith (*Economics and the Public Purpose*, 1974), and the author's own view about the future. Citing consumption data for the United Kingdom over the last 20 years, suggests a pattern "from services to goods, or possibly from capital investment in manufacturing industry to capital investment in the home . . . best summarised not as the 'service economy,' but as the 'self-service' economy." Based on the continuing trend of increased demand for material goods, sees "a future in which an educated elite minority is employed in intrinsically rewarding technical tasks connected with . . . production, and the majority is employed only in the undemanding manipulation of automated machinery . . . but starved of rewarding occupation." Questions whether this situation is inevitable, and argues that society might take advantage of efficient production to improve quality of work and leisure in the informal sector (household, recreation, *etc.*) as an alternative to employment in the formal sector. The author is a Fellow of the Science Policy Research Unit, University of Sussex. Index.

HAZLITT, HENRY. *Economics in one lesson.* Third edition. New Rochelle, N.Y.: Arlington House, [1946, 1962] 1979. Pp. 218, $8.95. *JEL 79-0600*

Maintains that "the art of economics consists in looking not merely at the immediate but at the longer effects of any act or policy; it consists in tracing the consequences of that policy not merely for one group but for all groups." Lesson then illustrated by discussions of 24, mostly American, situations, including public works, spread-the-work schemes, full employment, the price system, price-fixing by the government, profits, inflation, and others. This edition includes up-to-date technical and statistical material, revisions, and a new final chapter on the lesson after thirty years, in which the author concludes that the problem we face today is not economic, but political, *i.e.*, gov-

ernment intervention into the free market system. The author is an economic journalist. Index.

JAMES, ELIJAH M. *Macroeconomics: Basic concepts, questions and answers.* Toronto and London: Butterworths, 1979. Pp. 124. $6.50, paper.
JEL 79-0601

An introductory text covering all major areas of macroeconomics except for long-term economic growth. An appendix provides essay questions and answers. Companion volume to the *Microeconomics: Basic Concepts, Questions and Answers* [see *JEL no. 79-0602.*] The author teaches at Concordia University and Dawson College, Montreal. Glossary; no index.

JAMES, ELIJAH M. *Microeconomics: Basic concepts, questions and answers.* Toronto and London: Butterworths, 1979. Pp. 99. $6.50, paper.
JEL 79-0602

Introductory text and companion volume to *Macroeconomics: Basic Concepts, Questions and Answers* [see *JEL no. 79-0601.*] Covers the usual microeconomic topics, as well as touching upon poverty, pollution, and discrimination. The appendix offers essay questions and answers. The author teaches economics at Concordia University and Dawson College in Montreal. Glossary; no index.

JACOBSON, WILLARD J. *Population education: A knowledge base.* New York: Columbia University, Teachers College Press, 1979. Pp. xviii, 267. $12.95. *JEL 79-0603*

Background information drawn from mathematics, philosophy, the humanities, and several natural and social sciences on population problems and practical suggestions for teaching. Designed for teachers of science and social studies at middle and junior high school levels. Topics covered include: changes in population; regulation; families; populations and space; and population and environments, resources, values, and education. The author is Codirector, Population Education Project, Teachers College, Columbia University. Combined glossary/index.

KAHN, HERMAN. *World economic development: 1979 and beyond.* With the HUDSON INSTITUTE. Boulder: Westview Press (cloth); New York: Morrow (paper); 1979. Pp. xxi, 519. $20.00, cloth; $7.95, paper. *JEL 79-0604*

Examines economic prospects focusing on the period 1978–2000, and particularly the earlier part of the period. In two parts, part one presents the general historical framework, concepts, and perspectives on economic growth and cultural change. Part two examines the major trends and problems of "the real world," focusing on the elements of change and continuity in both the advanced and developing economies. Rejects attempts by some to "stop the world" and argues for and suggests strategies for "rapid worldwide economic growth, for Third World industrialization, and for the use of advanced (or at least appropriate) technology." Part of the Hudson Institute series on "The Prospects for Mankind." The author is Founder, Director, and Chairman of the Hudson Institute. Index.

LIPSEY, RICHARD G. AND STEINER, PETER O. *Macroeconomics.* Fifth edition. New York and London: Harper and Row, 1979. Pp. xiv, 513. Paper.
JEL 79-0605

Paperback edition of chapters 1–5 and 26–45 of the fifth edition of the authors' *Economics* [see *JEL no. 78-0614*].

LIPSEY, RICHARD G. AND STEINER, PETER O. *Microeconomics.* Fifth edition. New York and London: Harper and Row, 1979. Pp. xiv, 512. Paper.
JEL 79-0606

Paperback edition of chapters 1–25 of the fifth edition of the authors' *Economics* [see *JEL. no. 78-0614*].

MILLER, ROGER LEROY. *Economics today.* Third edition. New York and London: Harper and Row, [1973, 1976] 1979. Pp. xvii, 747. $16.95.
JEL 79-0607

Introductory text. This edition includes new chapters on: the price systems; the circular flow; U.S. growth; rent, interest, and profits; general equilibrium; conservation; and history and problems of international trade. Chapters now include, in addition to chapter summaries as before, chapter previews, concepts in brief sections, study questions, and problems (with answers). Individual micro and macro editions and individual study guides, written by Lee C. Specter and Ronald L. Cutadean [see *JEL no. 79-0612*] available. [See *JEL no. 76-0611* for annotation of second edition.] The author is Professor of Economics, University of Miami. Name index, index of glossary terms, and subject index.

MILLER, ROGER LEROY. *Economics today: The macro view.* Third edition. New York and London: Harper and Row, 1979. Pp. xiv, 418. $9.95, paper.
JEL 79-0608

Relevant introductory and macroeconomic material from Miller's *Economics Today.* [See *JEL no. 79-0607.*] Name index, index of glossary terms, and subject index.

MILLER, ROGER LEROY. *Economics today: The micro view.* Third edition. New York and London: Harper and Row, 1979. Pp. xiv, 434. $9.95, paper. *JEL 79-0609*

Relevant introductory and microeconomic material from Miller's *Economics Today.* [See *JEL no. 79-0607.*] Name index, index of glossary terms, and subject index.

OZAKI, ROBERT S. *Economics, economists and the economy: An introduction to a world of magnificent confusion.* Englewood Cliffs, N.J.: Prentice-Hall, Reston, 1979. Pp. x, 115. $6.95, paper. *JEL 79-0610*

Informal examination of current economic topics, written in the form of a dialogue between a professor and his students. The author covers: the Chicago School, Keynesianism, monetarism, fiscalism, inflation, unemployment, stagflation, and cures for stagflation. Illustrated. The author is Professor of Economics, California State University, Hayward. No index.

REYNOLDS, LLOYD G. *Microeconomics: Analysis and policy.* Third edition. The Irwin Series in Economics. Homewood, Ill.: Irwin; Georgetown, Ontario: Irwin-Dorsey, [1963 . . . 1976] 1979. Pp. xvi, 470. $9.50, paper. *JEL 79-0611*

Test for the microeconomic part of a principles course. This edition includes new material on the consequences of differing market structures, income distribution and redistribution, and the performance of planned economies as compared to market economies. More than half of the book is an exposition of the concepts. [See *JEL no. 76-0615* for annotation of the 1976 edition.] The author is Sterling Professor of Economics at Yale University. Glossary of concepts; index.

SPECTOR, LEE C. AND CUTADEAN, RONALD L. *The macro view: Student learning guide to accompany Miller: Economics Today.* New York and London: Harper and Row, 1979. Pp. x, 148. $5.95, paper. *The micro view: Student learning guide to accompany Miller: Economics Today.* New York and London: Harper and Row, 1979. Pp. x, 148. $5.95, paper. *JEL 79-0612*

Learning guides to accompany Miller's two-part text in introductory economics [see *JEL nos. 79-0608 and 79-0609*]. Each chapter includes: terms for review, learning objectives, glossary, check tests, discussion hints, review tests, problems, and answers. The authors are at the State University College at Buffalo and Miami Dade County Community College South, respectively. No index.

WARD, BENJAMIN. *The conservative economic world view.* The Ideal Worlds of Economics Series. New York: Basic Books, 1979. Pp. 144. $4.95, paper. *JEL 79-0613*

Surveys and analyzes distinguishing characteristics of the conservative world view: the rejection of utopian and mechanistic solutions to human problems; recognition of the individual as the primary element in society; recognition of the family as the central social unit; and the provision of order as an essential task of government. In part one the author presents "The Optimal Conservative World View," discussing the behavior of markets, property rights, the role of the state, problems of developing economies, views of socialism, international relations, and future prospects. Part two includes commentaries on the differences among conservatives, with chapters on: libertarianism, social conservatives, neoconservatives, Friedman, and Hayek. The author is Professor of Economics at the University of California at Berkeley. Suggestions for further reading; index.

WARD, BENJAMIN. *The radical economic world view.* The Ideal Worlds of Economics Series. New York: Basic Books, 1979. Pp. 177. $4.95, paper. *JEL 79-0614*

Attempts to summarize the liberal economic interpretation of the structure and workings of the contemporary world. Maintains that "viable and plausible radical and conservative economic world views can also be constructed to explain the contemporary world." (The author has also written monographs on these views [see *JEL nos. 79-0613* and *79-0615*].) Part one presents "The Optimal Liberal Economic World View," discussing affluent capitalism, the functioning of parliamentary democracy, management and planning, liberalism and socialism, international relations, and prospects for the future. Part two presents "variant liberal world views," including treatments of Galbraith, Drucker, power and the survival of liberal government, economic development, and "ecological Cassandras." Suggestions for further reading; index.

WARD, BENJAMIN. *The radical economic world view.* The Ideal World of Economics Series. New York: Basic Books, 1979. Pp. 154. $4.95, paper. *JEL 79-0615*

Surveys the major features of radical political economics. In part one the author presents his own radical interpretation, discussing the following topics: criticisms of contemporary capitalism; the structure, tendencies, and transitions in society; exploitation under monopoly capitalism; government and monopoly capital; development and imperialism; the socialist experience of the Soviet

Union, Yugoslavia, and China; and prospects for the future. In part two the author presents other world view interpretations of radical economics. Baran and Sweezy, alienation, Horvat, and the role of revolution. Suggestions for further reading; index.

WEIDENAAR, DENNIS J. AND WEILER, EMANUEL T. *Economics: An introduction to the world around you.* Second edition. Addison-Wesley Series in Economics. Reading, Mass; London; Amsterdam and Don Mills, Ont.: Addison-Wesley, [1976] 1979. Pp. xiii, 498. $12.95, paper. *JEL 79-0616*

Second edition of undergraduate textbook designed for majors and non-majors. [See JEL no. 76-0620 for annotation of first edition.] Changes from first edition include incorporation of new material illustrating applications of economic principles to the energy problem, a case-study as a vehicle for developing the short-run supply curve, expanded treatments of opportunity cost and profit, and a new chapter on government. The authors are Professor of Economics and Krannert Professor of Economics, respectively, at Purdue University. Index.

See also: Book Number *JEL 79-0792*

020 GENERAL ECONOMIC THEORY

AOKI, MASANAO AND MARZOLLO, ANGELO, eds. *New trends in dynamic system theory and economics.* New York and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xii, 412. $21.00. *JEL 79-0617*

Twenty previously unpublished papers presented at a two-week seminar of the same title held in Udine, Italy in September 1977. Papers highlight new contributions of control and systems theory to the dynamic analysis of an economy. Contributions organized in three categories: papers dealing with decision problems of agents with imperfect information or under uncertainty; recent advances in control theory and applications; and papers treating various aspects of disequilibrium analysis. No index.

CASSIDY, P. A AND GATES, R. C. *Simulation, uncertainty, and public investment analysis: A method of benefit cost evaluation and its application to land-use alternatives in the Wide Bay district of Queensland.* North Brisbane Business Research Centre Monograph no. 1. Kedron, Queensland: Business Research Centre of North Brisbane College of Advanced Education; distributed by the North Brisbane College of Advanced Education Press, 1977. Pp. iv, 154. *JEL 79-0618*

Develops a framework for public investment analysis, which quantifies the uncertainty of outcomes in appraising project benefits and costs. Suggests linear programming methods for screening alternative project decisions and incorporating probability distributions of critical stochastic events. Uses a simulation model to determine a risk profile of net benefits for alternative projects and applies it. The authors are Senior Lecturer in Economics at North Brisbane College of Advanced Education and Vice Chancellor of the University of New England in Armidale, New South Wales, respectively. No index.

DARBY, MICHAEL R. *Intermediate macroeconomics.* New York; Auckland; London and Montreal: McGraw-Hill, 1979. Pp. xiv, 479. $16.95. *JEL 79-0619*

In addition to the traditional Keynesian macroeconomics, the author presents developments in macro theory in the framework of a dynamic Cambridge equation, which is supplemented by the *IS-LM* model. Written from the perspective that the economy fluctuates around a growing equilibrium. Divided into six parts: introduction to macro variables; long-run equilibrium; fluctuations around the equilibrium; the Keynesian model; the use of macro models, focusing on the U.S. experience since the 1920's; and macro stabilization policy. Chapters include questions and exercises; selected answers provided. The author is Professor of Economics, University of California, Los Angeles. Mathematical appendix; glossary of terms and symbols; index.

GIFFORD, ADAM, JR., AND SANTONI, GARY J. *Public economics: Politicians, property rights, and exchange.* Hinsdale, Ill.: Holt, Rinehart and Winston, Dryden Press, 1979. Pp. xii, 273. $14.95. *JEL 79-0620*

Textbook on the economic theory of government activity, providing an analytic framework explaining choices of individuals functioning as voters, elected representatives and bureaucrats, and the effect these choices have on resource allocation. Includes a review of basic economic concepts, treatment of public goods and problems associated with their supply, three chapters devoted to the theory of public choice, and an equal number to taxation, tax incidence, and allocative effects of taxation. Applications in the form of short reviews of empirical studies, questions, and exercises included in each chapter. The authors are at the California State University. Index.

GREEN, JERRY R. AND LAFFONT, JEAN-JACQUES. *Incentives in public decision-making.* Studies in

Public Economics, Volume 1. Amsterdam; New York and Oxford: North-Holland; distributed in the U.S. and Canada by Elsevier North-Holland, New York, 1979. Pp. xviii, 293. $48.75.
JEL 79-0621

First volume in a series presenting research on various aspects of public sector economics. Explores the possibilities of overcoming obstacles to efficient decision-making in public sector settings in which the benevolent central decision-maker is faced with an economy characterized by individuals with conflicting goals and with incomplete information. Discusses incentives in economic systems, social choice theory, restrictive conditions under which a class of methods for eliciting individuals' preferences can lead to Pareto optima, the potential for overcoming problems of incentive compatibility through large-number methods, and incentive compatibility with the assumption of individual myopia. The authors are at Harvard University, and the *Université des Sciences Sociales de Toulouse* and the *École Polytechnique* in Paris, respectively. Author and subject indices.

KALDOR, NICHOLAS [LORD]. *Further essays on economic theory.* Collected Economic Essays, vol. 5. New York: Holmes & Meier, 1978. Pp. xxix, 232. $21.75. *JEL 79-0622*

Volume five of Kaldor's eight-volume collected essays series, comprises nine previously published papers written between 1958 and 1976 on macroeconomic growth and distribution theory. Includes papers on the relation between neo-Keynesian and classical models, growth incorporating embodied technical progress (with J. A. Mirrlees), on the marginal product of capital distribution theory of Samuelson and Modigliani, Britain's rate of growth in the 1960's, and differences between the economics appropriate to land-based activities and the economics appropriate to processing activities. Also includes papers on: British postwar economic policy, the shortcomings of the Walrasian general equilibrium framework for analyzing market economies, and world inflation since World War II. Kaldor believes papers illustrate his perception that an economy is not "resource-constrained," first because it is at full employment and that a theoretical analysis must be based firmly on empirically derived "laws" or regularities. [See *JEL no. 79-0752* for annotation of volume six.] The author is recently retired as Professor of Economics at Cambridge University. Author index.

KENNEDY, PETER E. *Macroeconomics.* Second edition. Boston; London; Sydney and Toronto: Allyn and Bacon, [1975] 1979. Pp. x, 469. $16.95.
JEL 79-0623

Nontechnical intermediate text written in a question/answer format. In covering the traditional macro topics, the author places emphasis both on the Keynesian-monetarist controversy and policy implications throughout the text. Makes use of flow charts to describe economic responses to policy shocks. Chapters include questions for discussion. The author is at Simon Fraser University. Name and subject indices.

PASINETTI, LUIGI L. *Growth and income distribution: Essays in economic theory.* Paperback edition. Cambridge; New York and Melbourne: Cambridge University Press, [1974] 1979. Pp. x, 151. $7.95, paper. *JEL 79-0624*

First paperback edition. [See *JEL no. 75-0318* for annotation.]

PATTERSON, K. D. AND SCHOTT, KERRY, eds. *The measurement of capital: Theory and practice.* New York: Holmes & Meier; London: Macmillan Press, 1979. Pp. x, 290. *JEL 79-0625*

Eleven previously unpublished articles providing the views of theorists, statisticians, and applied economists on capital measurement; nine of the papers were originally presented at a conference held at the University of Southampton in the summer of 1976. Three papers in the first part deal with theoretical issues, including capital measurement under general equilibrium, the restrictive nature of the surrogate capital measure, and the existence and usefulness of quantity efficiency curves. Papers in the second part deal with capital measurement in practice, including discussions of statistics for capital stock assets in the U.K.; capital stock in Welsh manufacturing, disaggregated by buildings and plant and machinery; stock of human capital in the U.K.; total factor productivity in the U.K.; capital utilization; and factor demand functions. "The questions we must proceed to answer are how much does it matter empirically to assume measures of aggregate capital, and indeed, other inputs and outputs, when we know such measures do not strictly exist? What aggregate specifications might serve best at the empirical level and under what conditions?" The editors are Lecturers in Economics at the University of Reading and University College (London), respectively. Index.

POLKINGHORN, R. STEPHEN. *Micro-theory and economic choices.* The Irwin Series in Economics. Homewood, Ill.: Irwin; Georgetown, Ont.: Irwin-Dorsey, 1979. Pp. xii, 407. $16.50.
JEL 79-0626

Intermediate microtheory text that emphasizes a theory of human behavior, *i.e.*, "economic pre-

dictions are deduced from a model of the way in which individuals choose among the alternatives open to them." Covers the standard topics. In five parts: Introduction, consumption, production equilibrium and welfare economics. Presentation relies on simple geometry, stressing "the axioms and the deductive techniques that lead to prediction." The author is at California State University, Sacramento. Index.

SARGENT, THOMAS J. *Macroeconomic theory.* Economic Theory, Econometrics, and Mathematical Economics Series. New York and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xiii, 404. $24.50. *JEL 79–0627*

Graduate-level text. Part one presents standard nonstochastic macroeconomic analysis, including the Classical, Keynesian, and Tobin models as well as Keynesian dynamics and the investment schedule. Part two focuses on stochastic analysis of behavior under uncertainty, consumption, investment, monetary policy, and the "new classical" macroeconomics. This part also includes chapters on lag operators, linear least squares prediction, and stochastic difference equations. The author is Professor of Economics at the University of Minnesota and an advisor at the Federal Reserve Bank in Minneapolis. Author and subject indices.

See also: Book Numbers *JEL 79–0630, 79–0765*

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

CARPENTER, KENNETH E. *Dialogue in political economy: Translations from and into German in the 18th century.* Kress Library Publication, no. 23. Boston: Harvard University, Graduate School of Business Administration, Baker Library, 1977. Pp. 95. $5.00, paper. *JEL 79–0628*

Annotated catalogue of 36 titles of translations of eighteenth century economic literature into and from German. (Notes on some forty-two additional works also included.) Based on an exhibition of selections from the Kress Library Collection of the Harvard Business School's Baker Library as augmented by materials on loan from other libraries. Major entries contain transcription of titles, addresses of printers and publishers, page numbers, and contents in sufficient detail to determine major additions to original texts. Arranged by original language. Includes introductory essay on translations as indicators of cross-cultural transfer of knowledge. The author is curator of the Kress Library of Business and Economics. No index.

FISHER, IRVING. *The theory of interest: As determined by impatience to spend income and opportunity to invest it.* Reprint. Philadelphia: Porcupine Press, [1930] 1977. Pp. xxvii, 566. $7.95, paper. *JEL 79–0629*

Reprint of Fisher's 1930 classic on the rate of interest, defined here as the rate on a "safe loan" that specifies payments on certain dates or sets of dates. After discussing time preference and the first, second, and third approximations of the theory in words, Fisher then specifies the theory in geometrical and other mathematical forms. Concludes that interest rates are influenced by six principles (sets of equations): two Opportunity Principles (objective individual investment opportunities); two Impatience Principles (subjective influences reflecting human impatience or time preference); and two Market Principles (supply and demand, *i.e.*, the market must be cleared and the debts must be paid). Professor Fisher (1867–1947) was at Yale University. Bibliography; index.

FRISCH, RAGNAR. *New methods of measuring marginal utility.* Reprint. Philadelphia: Porcupine Press, [1932] 1978. Pp. 142. $13.50. *JEL 79–0630*

Reprint of Frisch's 1932 study of the measurement of marginal utility in a static framework. Discusses money utility and commodity utility, and utility measurement via the isoquant and quantity variation methods. Describes the translation methods for deriving price indices from expenditure data and applies the translation method to the U.S. BLS budget data for 1918–19. Proceeds to present the general flexibility equation, a more general statement of the translation method. Last chapters discuss money utility and the index number problem, the labor supply curve, the income tax, and the problem of dynamification of the theory of utility. The author (1895–1973) was Professor of Economics, University of Oslo, and Nobel Laureate. No index.

HEILPERIN, MICHAEL A. *International monetary economics.* Reprint. Studies in International Economics, no. 2. Philadelphia: Porcupine Press, [1939] 1978. Pp. xiv, 281. $16.50. *JEL 79–0631*

Reprint of a 1939 discursive study that clarifies the concepts of the structure of international monetary relations. Discusses the nature of monetary internationalism and the monetary economics of gold, and analyzes problems related to balance of payments, exchange rates and parities, and monetary stability. Maintains that, although statistical methods are important to these problems, he cannot accept the [then] current methods and critically examines Gustav Cassel's 1930 and Charles Rist's 1935 studies. Concludes that mechanisms of

re-establishing equilibrium in balance of payments need to work through the same instruments of action regardless of the monetary system adopted. Appendix on the uses of statistical construction. The author was at the Graduate Institute of International Studies when this book was written. Index.

HUTTON, JOHN. *The mystery of wealth: Political economy—Its development and impact on world events*. New York and Toronto: Wiley, Halsted Press; London: Stanley Thornes, 1979. Pp. 412. *JEL 79-0632*

Examines the main developmental characteristics of economic doctrine developed in the late eighteenth and nineteenth centuries by focusing on "the lives and pre-occupations of the political and economic thinkers of the same period." Concerned with the British–Western European–North American experience in the industrial age as viewed by Adam Smith, David Ricardo, John Stuart Mill, Karl Marx, John Maynard Keynes, and others. Discusses contemporary relevance of the historic debates concerning scarcity, wealth and welfare, relationship among trade, development and growth, domestic problems and policies, the evolving nature of industry, and national economic planning and decision-making. Stresses the importance of the underlying historical, institutional, and political bases of society. "Suggests" a possible 'convergency' between the various doctrines and systems reviewed." The author is a Senior staff member at the Administrative Staff College, Henley-on-Thames. Index.

LANGHOLM, ODD. *Price and value in the Aristotelian tradition: A study in scholastic economic sources*. Bergen, Norway: Universitetsforlaget; distributed by Columbia University Press, New York, 1979. Pp. 175. $22.00. *JEL 79-0633*

Traces several branches of scholastic and early post-scholastic traditions in the economic theory of value, which developed as medieval commentaries on Aristotle's *Ethics*. Identifies developments in the theory of value that anticipated the classical economists by several centuries. Organizes analysis around the traditions of Robert Grosseteste, Albertus Magnus, Thomas Aquinas, Henricus de Frimaria, Johannes Buridanus, and Geraldus Odonis. The author is Professor at the Norwegian School of Economics in Bergen. Select Bibliography; no index.

RADER, MELVIN. *Marx's interpretation of history*. New York: Oxford University Press, 1979. Pp. xxiii, 242. $12.95, cloth; $4.95, paper. *JEL 79-0634*

Aimed at the philosopher and the social scientist in general, the author proposes to explain, based on primary sources, "what Marx said and meant." Argues that Marx employed three elements in his interpretation of history: dialectical development, base and superstructure, and organic unity. Examines the idea of concreteness as a characteristic of the social organism and the crisis of the social order in its late maturity and the ensuing revolutionary transformation. Stresses his view that the Marxian tradition has emphasized the base-superstructure model at the expense of the organic unity model (involving self-regulatory features), which Marx derived "from the classics of economic theory—especially the works of Adam Smith and David Ricardo." The author is Professor of Philosophy Emeritus at the University of Washington. Index.

ROBBINS, LIONEL [LORD]. *The theory of economic policy in English Classical political economy*. Second edition. Philadelphia: Porcupine Press, [1952] 1978. Pp. xvii, 217. $15.00. *JEL 79-0635*

Six descriptive lectures on the body of principles of governmental action or inaction in regard to economic activity as seen by Hume, Smith, and their followers. After discussing economic freedom and the economic functions of the state, Lord Robbins focuses on the conditions of the populace and the Classical School's views on socialism from the time of Hume and Smith to Mill. Concludes that the English Classical School from its beginnings was, when it comes to policy, a school of economic and social reform; what sets it apart from other reformers is that the School, rightly or wrongly, professed itself to be based upon a systematic body of scientific knowledge known as political economy. Lord Robbins, now retired, was "officially" a professor at the London School of Economics from 1929 until 1961; he "lectured" there, thereafter. Select bibliography; name index.

ROTH, MIKE AND ELDRED, MICHAEL. *Guide to Marx's "Capital."* London: Conference of Socialist Economists (CSE) Books; distributed by Humanities Press, Atlantic Highlands, N.J., 1978. Pp. 128. $4.50, paper. *JEL 79-0636*

Comprised of five individual chapters on the three volumes of *Capital*, sets out briefly the steps of the argument in the text providing "the systematic argument which results in the construction in theory of the forms of existence of social labour and the corresponding consciousness in which bourgeois people live their everyday economic life." The papers do not deal with questions regarding money, credit, and crisis. Each chapter is followed by comments, which attempt to explain the material and its relation to the overall argu-

ment. Appendices on the family and science in *Capital*. Glossary; index to glossary.

VINER, JACOB. *Canada's balance of international indebtedness, 1900–1913: An inductive study in the theory of international trade.* Reprint. Studies in International Economics, no. 6. Philadelphia: Porcupine Press, [1924] 1978. Pp. x, 318. $17.50. *JEL 79-0637*

Reprint of Viner's 1924 inductive attempt to verify the general theory of the mechanism of international trade, and incidentally on Canadian matters. Presents statistical estimates of the important items entering into Canadian balance of payments for 1900–13 and analyzes the mechanism of adjustment in detail. Finds in part that the data verify the theory that "prices during a period of capital borrowings rise in the borrowing country, fall in the lending country" and that domestic and export prices rise relative to import prices. Jacob Viner (1892–1970) was Professor at the University of Chicago until 1947, thereafter at Princeton University. Bibliography; index.

WOLFSTETTER, ELMAR. *Wert, Profitrate und Beschäftigung: Aspekte der Marxschen und der klassischen Wirtschaftstheorie.* Frankfurt and New York: Campus, 1977. Pp. iv, 250. DM 34.00. *JEL 79-0638*

Monograph on three interrelated aspects of Marxian economics: the labor theory of value, the theory of cyclical growth, and the law of the falling tendency of the rate of profit. The first part reviews various formulations of labor values and proposes an alternative formulation of the labor *theory* of value, explicitly paying attention to the time structure contains a critique of Sraffa's theory of joint production. The second part reviews Marx's wage and employment theory in the light of both classical (general glut controversy) and modern economic thought. Similarities between Marx and Goodwin's "growth cycle" are explained, and several generalized Goodwin models are formulated in order to test the robustness of Marx's results. In the third part the author explains the links between Marx's growth cycles and the law of the falling tendency of the rate of profit. The classical formulation of this law is reinterpreted and defended against such critics as Marx and Schumpeter; Marx's law is shown to be subject to some fatal logical mistakes. The author is at the State University of New York at Buffalo. No index. [E. W.]

See also: Book Numbers *JEL 79-0624, 79-0642, 79-0789, 79-0855*

040 ECONOMIC HISTORY

CARON, FRANÇOIS. *An economic history of modern France.* Translated by BARBARA BRAY. Columbia Economic History of the Modern World Series. New York: Columbia University Press, 1979. Pp. 384. $16.50. *JEL 79-0639*

Examines the economic history of France from the time of the Congress of Vienna to the present. Avoiding exclusively sociological or psychological explanations (*e.g.*, the French are more "protectionist" or more "corporatist" than other people), attempts to identify the particular geographical, historical, and demographic factors to which economic actors had to adapt themselves. Maintains that persistent state intervention in the interest of "the general welfare" has benefited small business and the middle class in general. The author is Professor of Contemporary Economic History at the University of Paris–Sorbonne. Index.

DURIE, ALASTAIR J. *The Scottish linen industry in the eighteenth century.* Edinburgh: John Donald; distributed in the U.S. by Humanities Press, Atlantic Highlands, N.J., 1979. $27.75. *JEL 79-0640*

An economic history of the development of the Scottish linen industry from a "small, backward and unimportant" craft to "the most important single manufacture" in Scotland by the end of the eighteenth century. Discusses the role and activities of the Board of Trustees for Fisheries and Manufactures, and offical body for the improvement of linen-making, and the contribution of the British Linen Company, at one time probably the largest single firm in the industry and the whole economy, and assesses the markets for Scottish linen, thread, and yarn. Based partly on a doctoral thesis by the author who is now Lecturer in Economic History, University of Aberdeen. Bibliography, index.

FANG, HSIEN-T'ING. *The triumph of the factory system in England.* Reprint. Perspectives in European History, no. 17. Philadelphia: Porcupine Press, [1930] 1978. Pp. 310. $22.50. *JEL 79-0641*

Reprint of Fang's 1928 doctoral dissertation for the Graduate School of Yale University surveying industrial organization in English manufactures about 1840. Industries covered include cotton, woolen and worsted, silk, flax, hemp, paper, pottery, glass, metal, and clothing. Concludes that from the stand-point of the entrepreneur, labor, and consumer, the establishment of the factory system constituted a social gain. The author was with Nankai University, Tientsin, when this text was originally published. Annotated bibliography; index.

GANDY, D. ROSS. *Marx and history: From primitive society to the communist future.* Austin and London: University of Texas Press, 1979. Pp. 190. $14.95. *JEL 79-0642*

Attempts to draw together and explain Marx's and Engels's writings on history, based on a study of the forty-volume *Marx-Engels Werke* (Berlin: Dietz Verlag, 1964–1968). "Develops and documents" the post-1960 "New Marxist" conception of history as a "multilinear" process as opposed to a "straight-line progress through world class systems." Includes discussions of the new Marxism, precapitalist modes of production, capitalism, communism, classes, historical sociology, and Marx's theory of revolution (in an appendix). The author teaches history at Instituto Fenix in the State University of New York's extension in Cuernavaca, Mexico. Bibliography; no index.

HANNAH, LESLIE. *Electricity before nationalisation: A study of the development of the electricity supply industry in Britain to 1948.* Johns Hopkins Studies in the History of Technology Baltimore: Johns Hopkins University Press; London: Macmillan Press, 1979. Pp. xv, 467. $28.50. *JEL 79-0643*

A chronological history of the technical, business, and economic evolution of Britain's electricity supply industry from its foundation in the 1880's to nationalization in 1948, concentrating on the post-1920 period. Data come from a wide range of unpublished sources, business and technical publications, and official documents. The author is Director of the Business History Unit, University of London. Includes a statistical appendix. Index.

LØKKEGAARD, FREDE. *Islamic taxation in the classic period: With special reference to circumstances in Iraq.* Studies in Islamic History, no. 10. Philadelphia: Porcupine Press, [1950] 1978. Pp. 286. $17.50. *JEL 79-0644*

Examines the development of relationships between the state and property in classical Islam. Reprint of the 1950 edition, which was originally presented as a Ph.D. dissertation at the University of Copenhagen. "List of More Important Literature"; index.

MACDONALD, DONALD FAGUHAR. *Scotland's shifting population, 1770–1850.* Reprint. Perspectives in European History, no. 29. Philadelphia: Porcupine Press, [1937] 1978. Pp. vii, 172. $14.00. *JEL 79-0645*

Reprint of 1937 study of labor migration in Scotland and distribution of Scottish population. Covers changes in the total size, rural depopulation, Irish immigration, health in the towns, migration and poor relief, seasonal migration due to occupation, and emigration. Finds in part that internal migration and emigration stems from changes in industry and agriculture, the inadequacy of poor-relief, and the rapid growth of population, partially a result of Irish immigration. Includes maps of related information. Bibliography; index.

PAWSON, ERIC. *The early Industrial Revolution: Britain in the eighteenth century.* New York: Harper and Row, Barnes and Noble, 1979. Pp. 233. $14.50. *JEL 79-0646*

Designed as a text for students of historical geography. Explores Britain's "transformation from the relative economic and social stability of preceding centuries into a new experience of sustained economic growth and social change." Examines the growth of population; agricultural expansion; industrial change; the basic industries; internal trade and communications; the service sector; the role of towns and urban growth; and external relations. The author is Lecturer in Geography at the University of Canterbury, Christchurch, New Zealand. Index.

PIOTROWSKI, ROMAN. *Cartels and trusts: Their origin and historical development from the economic and legal aspects.* Reprint. Philadelphia: Porcupine Press, [1933] 1978. Pp. 376. $19.50. *JEL 79-0647*

Reprint of a 1933 history of cartels that outlines the monopoly movement from the time of the Phoenician empire through the nineteenth century. Finds that the cartels and trusts were not a modern phenomenon, as frequently presented, but simply a phase of the uninterrupted monopoly movement known in antiquity; the technique of the movement, however, changed with changes in economic conditions. Index.

ROBERTSON, ROSS M. AND WALTON, GARY M. *History of the American economy.* Fourth edition. New York: Harcourt Brace Jovanovich, [1955 . . . 1973] 1979. Pp. xvi, 586. *JEL 79-0648*

New edition of a textbook originally written by the late Ross M. Robertson [see *JEL no. 73-0653*] and revised by Gary M. Walton of Washington State University. Revisions include an expanded treatment of the colonial period and an update of research in economic history, much of which is quantitative. Composed of four parts—The Colonial Era; The Revolutionary, Early National, and Antebellum Eras, 1776–1860; The Reunification Era, 1861–1914; and the Modern Era, 1951 to the

Present. Includes a glossary, suggested readings, and index.

RÖPKE, WILHELM. *International economic disintegration.* Reprint. Appendix by ALEXANDER RÜSTOW. Studies in International Economics, no. 4. Philadelphia: Porcupine Press, [1942] 1978. Pp. xii, 283. $17.50. *JEL 79–0649*

Reprint of Röpke's 1942 investigation of the long-run crisis in international economic relations. After discussing the meaning of international economic disintegration and the extra-economic framework of integration and disintegration, the author considers the military aspects of economic nationalism; agrarianization of industrialized countries; industrialization of agrarian countries; disturbances of the monetary system, stabilization; international division of labor; and disintegration as a problem of the social and political structure. Concludes that the international economic disintegration of the interwar period was the result of a general disintegration of the whole economic structure and was a symptom of general social and psychological decomposition. Röpke [1899–1966] was Professor of Economics at the Graduate Institute of International Studies, Geneva. No index.

SOHN-RETHEL, ALFRED. *Economy and class structure of German fascism.* Translated from the German by MARTIN SOHN-RETHEL. London: CSE Books; distributed by Humanities Press, Atlantic Highlands, N.J., [1973] 1978. Pp. 159. $13.75, cloth; $7.00, paper. *JEL 79–0650*

Marxist analysis of the rise of the Nazis in the 1930's and their connection to German big business. Based on the author's personal experience and other eye-witness reports, the text covers the interrelations of the ruling class and the particular aspects of the crisis of German monopoly capital. Also notes in the conclusion parallels between the "middle strata" of the population of Nazi Germany and the situation in Britain today. Concludes that "the Nazis in Germany saved the capitalist system by destroying the independent organisations of the working-class, their political parties and trade unions." The author, now retired, was guest Professor of Social Philosophy at Bremen University. Index.

WALTON, GARY M. AND SHEPHERD, JAMES F. *The economic rise of early America.* London; New York and Melbourne: Cambridge University Press, 1979. Pp. x, 226, $19.95, cloth; $4.95, paper. *JEL 79–0651*

Supplementary text in American economic history that focuses on the role of the commercial sector as a driving force of economic growth and development of the British North American colonies. Written in a narrative form, the authors keep economic terminology to a minimum. Topics covered include: the age of discovery, taking the frontier, ascent of commerce, overseas trade and capital flows, productivity, income and wealth distribution, the factors leading to the War for Independence, and the postwar economic situation. Each chapter includes a glossary of terms and list of suggested readings. The authors are Professors of Economics at Washington State University and Whitman College, respectively. Index.

See also: Book Numbers *JEL 79–0634, 79–0751*

050 ECONOMIC SYSTEMS

CLARK, RODNEY. *The Japanese company.* New Haven and London: Yale University Press, 1979. Pp. x, 282. $17.50. *JEL 79–0652*

Focuses on the organization and operation of the Japanese company as well as its impact on its employees in particular and society in general. Reviews the historical influences on its organization and its central phase in industry and commerce, stressing its difference from the Western company; "anatomizes" its structure and management; examines recruitment and resignation, exploring the issue of "lifetime employment" and the nature of authority in Japanese industry as parts of the general question of the quality of the relationship between company and employees; and considers the relations of the company system to a changing society, arguing that the past pattern where the company preempted much wealth and used its wealth and influence on behalf of its employees will change: "from now on, the firm will surely have to give more to others and expect less for itself." The author is Lecturer in Social Anthropology, School of Oriental and African Studies, University of London. Index.

NOVE, ALEC. *Political economy and Soviet socialism.* London; Boston and Sydney: Allen and Unwin, 1979. Pp. xii, 249. $27.50. *JEL 79–0653*

Thirteen papers, written from 1966 on, eleven previously published and two in the process of publication, examining Russian history, features of East European political economy, some contemporary economic problems, and general concerns in Soviet studies. Some changes and updating, but the papers are generally reprinted in unaltered form. The author is Professor of Economics, University of Glasgow. Index.

See also: Book Numbers *JEL 79–0598, 79–0613, 79–0674, 79–0766, 79–0833*

100 Economic Growth; Development; Planning; Fluctuations

110 Economic Growth; Development; and Planning Theory and Policy

GRIFFIN, KEITH. *International inequality and national poverty*. New York: Holms & Meier, 1978. Pp. xi, 191. $25.00. *JEL 79-0654*

Nine essays, seven previously published between 1970 and 1978. Challenges the classical assumption that "unrestricted international intercourse will reduce inequality and poverty." Argues that forces creating inequality are automatic, and not due to malevolence of developed nations or corporations, but that "the motor of change in the contemporary world economy is technical innovation." Since the advances tend to be concentrated in the developed countries where they are applicable to their technology, rich countries are able to extract supra-normal profits and rents from the poor countries through trade. The high level of factor earnings in rich countries attract the "most valuable financial and human resources" of the poor countries through induced international migration. Divided into two parts, part one deals with international inequality and discusses: the international transmission of inequality; multinational corporations; foreign capital, domestic savings, and economic development; emigration; and the New International Economic Order. The essays in part two focus on national poverty, discussing the facts of poverty in the Third World, analyzing models of development, and assessing the Chinese system of incentives. The author is Acting Warden of Queen Elizabeth House, Acting Director of the Institute of Commonwealth Studies, and a Fellow of Magdalen College, University of Oxford. Index.

HOOLE, FRANCIS W. *Evaluation research and development activities*. Sage Library of Social Research, vol. 68. Beverly Hills and London: Sage, 1978. Pp. 207. $14.00, cloth; $6.95, paper. *JEL 79-0655*

Discusses the use of evaluation research for international development programs. Provides an introduction to evaluation research methods, case studies illustrating various research designs, discussion of applied research problems, and Bayesian decision techniques that complement evaluation research. Stresses the political dimension of development activities and the role of the political process in utilizing evaluation research. Suggests that "It would be a mistake to expect too much in the development field from evaluation research, just as it would be a mistake to dismiss it as having nothing to offer." Includes bibliography of works on basic evaluation research. The author is Associate Professor of Political Science at Indiana University. Name and subject indices.

THE JAPAN ECONOMIC RESEARCH CENTER AND THE COUNCIL FOR ASIAN MANPOWER STUDIES. *Income distribution, employment and economic development in Southeast and East Asia: Papers and proceedings of the seminar sponsored jointly by the Japan Economic Research Center and the Council for Asian Manpower Studies, December 16–20, 1974*. 2 vols. Tokyo and Manila: Authors, 1975. Pp. x, 791. Paper. *JEL 79-0656*

Nineteen papers by Southeast Asian, East Asian, and American economists on the relationship between employment, income distribution, and economic growth. Topics cover a wide range and include, among others, studies on equity in income distribution in Korea, in Taiwan, and in Thailand; "Taxation, Government Spending and Income Distribution in the Philippines"; demographic measures of income by size-classes among households; "Regional Income Disparity in Indonesia"; and the impact of postwar Japanese economic growth on income distribution. Includes summary remarks by Harry T. Oshima (Rockefeller Foundation and the Council for Asian Manpower Studies) and by Simon Kuznets (Professor of Economics, Emeritus, Harvard University). No index.

KHAKEE, ABDUL. *Planning in a mixed economy: The case of Sweden*. Stockholm: Swedish Council for Building Research, 1979. Pp. 94. 20 Skr, paper. *JEL 79-0657*

Describes and assesses the development of and major characteristics of national economic and physical planning, regional development and planning, urban changes and municipal planning, and the welfare state and social planning in postwar Sweden. Concludes that, in the future, "there is hardly any likelihood that Sweden will adopt a rigid centralized system of planning, [but] it is more likely to develop a planning system in which an optimum relationship—a planning compatibility—between governmental control and private initiative can be found." Based on a series of public lectures given at the University of Delaware during 1975–76. The author is Senior Lecturer, University of Umeå, Sweden. No index.

KOHR, LEOPOLD. *Development without aid: The translucent society*. Reprint. Foreword by KENNETH D. KAUNDA. Critical reflections by ROBERT J. ALEXANDER AND ALFRED P. THORNE. New York: Schocken Books, [1973] 1979. Pp. iii, 227. $12.95. *JEL 79-0658*

Developed from a series of lectures given at Oxford University in July 1963 and the University College of Wales in January 1969. Argues that economic maturity is best gained by recently liberated countries *without* foreign assistance. Advocates "protected cameralist self-sufficiency" as a first step and CUV approach (a "Contraction to Uninstrumented Visibility")—*i.e.*, operating a largely self-sufficient domestic economy, servicing a limited region, making advances appropriate to the society and with aspiration levels equally on course. Outlines the phases of economic development from the village-state to the nation-state; and sketches five revolutions (administrative, political, agricultural, manufacturing, and technological) through which a country must go to achieve development without aid. Includes sections of critical comments by Professors Alfred Thorne and Robert J. Alexander and replies by the author. Bibliography; index.

NORWEGIAN MINISTRY OF FINANCE, PLANNING DEPARTMENT. *Integration of social aspects into macro-economic planning and policy-making: Report from an international meeting 6th–8th December 1978 in Oslo, Norway.* Oslo: Author, 1979. Irregular. Paper. *JEL 79–0659*

Eight previously unpublished papers by planners exploring the information requirements, methods of evaluation, and organizational frameworks appropriate for achieving economic adjustments on the national level without increasing social problems. Authors include: Tor Saglie, Kauko Mannermaa, H. A. von Stiphout, Karl Klemola, Marcin Swiecicki, Marko Selan, Jørgen Rosted, and Arne S. Dolven. Also included are comments, meeting reports, and addresses. No index.

SEERS, DUDLEY; SCHAFFER, BERNARD AND KILJUNEN, MARJA-LIISA, eds. *Underdeveloped Europe: Studies in core–periphery relations.* Harvester Studies in Development, no. 2. Atlantic Highlands, N.J.: Humanities Press, 1979. Pp. xxi, 325. $26.50. *JEL 79–0660*

Fourteen papers originally presented at a workshop in November 1977 at the Institute of Development Studies at the University of Sussex. Papers discuss applications of the core–periphery theory of development to Western Europe and focus on the similarities between its core–periphery relationships and those relations linking the core and the periphery of the world as a whole. Part one presents general issues; part two discusses the migration of people and capital, including case studies of Ireland and the Mediterranean area; part three focuses on core–periphery relations *vis-à-vis* development in Portugal, Spain, Greece, and Southern Italy; part four considers the North-Western periphery in studies of Ireland, Scotland, and Finland. The editors are Professorial Fellow at the University of Sussex, Professorial Fellow, and Research Officer, respectively, of the Institute of Development Studies. Statistical appendix; index.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO). *Industrial priorities in developing countries: The selection process in Brazil, India, Mexico, Republic of Korea and Turkey.* Sales no. 78.II.B.12. New York: United Nations, 1979. Pp. xi, 180. $7.00, paper. *JEL 79–0661*

Five essays examine and assess the process of allocating resources in the industrial sector in five developing countries with fairly advanced industrial sectors—Brazil, India, Mexico, Republic of Korea, and Turkey. Based on empirical material up to *circa* 1975, stresses process rather than outcome; emphasis is on institutional background of decision-makers, nature of constraints on decision, and choice of policy instruments. Authors include Joel Bergsman, Deepak Lal, Leopoldo Solís, Irma Adelman, Larry Westphal, Anne O. Krueger, and Baran Tuncer. A chapter prepared by the Secretariat of UNIDO compares some statistical indicators of industrial development in the countries studied; reviews the main methodological alternatives for selecting industrial priorities; and presents a conceptual outline of the selection process. No index.

ZUVEKAS, CLARENCE, JR. *Economic development: An introduction.* New York: St. Martin's Press, 1979. Pp. xv, 433. $14.95. *JEL 79–0662*

Text written from an interdisciplinary perspective stressing policy and empirical findings rather than an overall development theory. Aims at balance between theory and policy, including historical development and empirical evidence. After discussing the terminology of and the obstacles to development, the author examines population growth, trade and development, and the role of government. Also covers: the problems of agriculture and industry, income distribution, employment, mobilization of domestic and foreign savings, manipulation of trade to the advantage of the developing country, and the limits to growth controversy. Presumes acquaintance with basic macro and micro theory. Each chapter includes a list of suggested readings. The author is an economist in the U.S. Department of Agriculture. Index.

See also: Book Numbers *JEL 79–0675, 79–0681, 79–0752, 79–0788*

120 COUNTRY STUDIES

ALAMGIR, MOHIUDDIN. *Bangladesh: A case of below poverty level equilibrium trap.* Dacca, Bangladesh: Bangladesh Institute of Development Studies, 1978. Pp. xvii, 186. $14.00, cloth; $10.00, paper. *JEL 79-0663*

A case study of PIFD (poverty, inequality, famine, and death) and the concept of "Below Poverty Level Equilibrium Trap," a level of existence that occurs between poverty and famine. Examines real income, poverty, and inequality in Bangladesh; analyzes the social forces and historical processes that have produced PIFD in Bangladesh; and critically evaluates development strategy for the area. Concludes that "traditional teachings of economic development do not provide solutions" and argues that the situation in Bangladesh "cannot . . . improve until an end is brought to the dominance of the comprador bourgeoisie and other classes representing basically semi-feudal/semi-colonial interests. The author is with the Bangladesh Institute of Development Studies, Dacca, and the Institute for International Economic Studies, Stockholm. Index.

BLACKABY, FRANK, ed. *De-industrialisation.* National Institute of Economic and Social Research, Economic Policy Papers, no 2. London: Heinemann Educational Books, 1979. Pp. 275. $30.95, cloth; $14.95, paper. *JEL 79-0664*

Ten previously unpublished papers plus comments, given at a conference organized by the National Institute, on the possible trend towards a contraction in British manufacturing. Discusses: existing trends; the explanations for the U.K.'s falling share in world manufacturing, including lack of technical innovation and management; non-price factors; and possible policy avenues. A brief report on the discussion at the conference is provided. The editors is Deputy Director, National Institute of Economic and Social Research. Index.

BLASIER, COLE AND MESA-LAGO, CARMELO, eds. *Cuba in the world.* Pitt Latin American Series. Pittsburgh: University of Pittsburgh Press, 1979. Pp. vii, 343. $21.95, cloth; $5.95, paper. *JEL 79-0665*

Fifteen papers, all but four previously unpublished, on Cuba's political and economic role in world affairs. Contributors are Cuba specialists in various academic disciplines from the United States, Latin America, Canada, Australia, Europe, and Israel. Earlier versions of many of the papers were first presented at an international conference, "The Role of Cuba in World Affairs," at the University of Pittsburgh, 15-17 November 1976. Index.

CHAUDHURI, PRAMIT. *The Indian economy: Poverty and development.* New York: St. Martin's Press, 1979. Pp. ix, 279. $18.95. *JEL 79-0666*

A "structuralist" view of Indian economic development for the perio 1950-74. Composed of three parts; part one describes the resource base of the Indian economy in 1950; discusses economic growth during the past twenty-five years; examines questions of resource mobilization, stability, and self-reliance; and assesses economic performance in Indian agriculture and industry. Part two explores the structure of poverty and the state of "the poor." Part three focuses on the role of the state in the formulation and execution of economic policy. Observes that there has been a sharp decline in the rate of growth since 1965-67 and that severe poverty continues; attributes this situation to "the predilection of the planners to talk in terms of general solutions to general problems." Argues that the structuralist approach would, for example, identify who is poor and what the poverty consists of and would have identified the need to increase food-grain production and to improve its distribution. The author is Reader in Economics at the University of Sussex, School of African and Asian Studies. Bibliographical references; index.

EVANS, PETER. *Dependent development: The alliance of multinational, state, and local capital in Brazil.* Princeton, N.J.: Princeton University Press, 1979. Pp. xviii, 362. $20.00, cloth; $5.95, paper. *JEL 79-0667*

Analyzes the forces that maintain the alliance of multinational corporations, the state, and local capital to accumulate industrial capital in Brazil. Uses material gathered in interviews over a five-year period with 150 corporate executives, combined with business publications, and other data to examine patterns of investment and business behavior. Explores the bases for conflict and cooperation among segments of the Brazilian elite and of representatives of international capital. Maintains that Brazilian industrial development must be understood in the framework of the capitalist world economy. Argues that this "dependent development" does not represent a break with past U.S. history. The author is Associate Professor of Sociology at Brown University. Bibliography; index.

GOULET, DENIS. *Looking at Guinea-Bissau: A new nation's development strategy.* ODC Occasional Paper, no. 9. Washington, D.C.: Overseas Development Council, 1978. Pp. 66. $2.50, paper. *JEL 79-0668*

Case study of the "alternative development strategy" of small, resource-poor nation on the

west coast of Africa (formerly Portuguese Guinea). This strategy emphasizes the equitable distribution of benefits more than economic growth and the involvement of local communities in decisions. Discusses the role played by the African Party for the Independence of Guinea and Cape Verde (PAIGC) and possible obstacles to success, including foreign aid, project inefficiency, and politicalization of economic decisions. Concludes that future prospects are hopeful; the PAIGC is the main source of strength in development and is the key to success. The author is a Senior Fellow at the Overseas Development Council. Bibliography; no index.

GRAHAM, LAWRENCE S. AND MAKLER, HARRY M. *Contemporary Portugal: The revolution and its antecedents.* Foreword by JUAN J. LINZ. Austin and London: University of Texas Press, 1979. Pp. xliii, 357. $24.95, cloth; $7.95, paper. *JEL 79-0669*

Eleven articles, selected from the multidisciplinary and cross-national research of the International Conference Group on Modern Portugal. The first five analyze the social, economic, and political nature of the authoritarianism and corporatism during Portugal's Salazar-Caetano era from 1932 to 1974; the second six focus on the revolutionary and post-revolutionary period, including a chapter on the transition between the two. Some specific topics are the impact of the authoritarian regime via the corporative system on the industrial elite; peasant political relations during the Salazar era; the role of the military in politics; the correlation between electoral behavior in 1975 and socioeconomic differences in the state; the impact of emigrant remittances on Portugal's economy in the 1960's and 1970's. Includes an introduction and an epilogue. The editors are Associate Director of the Institute of Latin American Studies and Professor of Government at the University of Texas at Austin and Associate Professor of Sociology at the University of Toronto, respectively. No index.

HATIBOĞLU, ZEYYAT. *Growth and rents in developing countries.* Istanbul: Aktif Büro Basim Organizasyon, 1979. Pp. 118. $12.00, cloth; $6.50, paper. *JEL 79-0670*

Proposes a model of economic growth for import-substituting developing countries linking earning differentials between agricultural and non-agricultural sectors to the price ratio of traded and non-traded goods. Discusses formal and practical consequences of income growth based on economic rents (prices of factors in inelastic supply); recalculates growth of Turkish national income, including the impact of earnings differences in the agricultural and nonagricultural sectors, and finds that per capita income should be some 60 percent of the official figures; and highlights how conventional analysis fails to address the most difficult problems facing the Turkish economy. The author is Professor of Economics at the Technical University of Istanbul and Institute of Business Administratión at Istanbul University. No index.

JOHNSON, B. L. C. *India: Resources and development.* New York: Harper & Row, Barnes & Noble; London: Heinemann Educational Books, 1979. Pp. xi, 211. $22.50. *JEL 79-0671*

A holistic view of post-independence India, focusing on her environment and use of resources. In five parts, part one discusses the political and economic systems *vis-à-vis* India's diverse population and culture; part two explores Indian agriculture, particularly water resources, crop distribution, crop associations, and agricultural transects; part three surveys industrial resources, manufacturing, population distribution, and urban characteristics; part five reviews development since 1947 and offers an "optimistic" view of the future, despite much apparently contradictory evidence. The author is Professor and Head of the Department of Geography, Australian National University, Canberra. Index.

KELIDAR, ABBAS, ed. *The integration of modern Iraq.* New York: St. Martin's Press, 1979. Pp. 200. $19.95. *JEL 79-0672*

Eleven previously unpublished papers by British and local scholars on development in the areas of history, politics, and economics in modern Iraq, originally presented at a seminar sponsored and held at the Near and Middle East Centre of the School of Oriental and African Studies (University of London) in June 1977. Papers of economic interest include Atheel Al-Jomard on internal rural-urban migration, Shakir M. Issa on income distribution in 1971, Keith McLachlan on regional development, and Edith Penrose on industrial policy and performance. Other papers cover election, military, and political leadership issues. The editor is Lecturer in Middle East Politics at the School of Oriental and African Studies. Index.

KOREA DEVELOPMENT INSTITUTE. *Long-term prospect for economic and social development 1977-91.* Seoul: Author; distributed outside Korea by the University Press of Hawaii, Honolulu, 1978. Pp. vii, 305. Paper. *JEL 79-0673*

The English version, slightly modified and updated, of a study for the Economic Planning Board, published in Korean in 1978. Identifies the major tasks facing the Korean economy and indicates

priority policy objectives for the next 15 years. Anticipates continued rapid growth, substantial changes in the industrial structure, improved labor productivity, social development, and improved equity of income distribution. Discusses investment and saving; foreign trade; technological innovations; energy demand and supply; the modernization of agriculture, transportation and communications; education; national welfare; distributive equity; and the prospects of major industries. Some macroeconomic projections for Korea for 1977–91 are (1) an average annual increase in GNP of 10.1 percent, (2) an increase in the value added in manufacturing of 12.9 percent per year, and (3) an average annual increase of government expenditures of 10.7 percent. Statistical appendix; no index.

KRYLOV, CONSTANTIN A. *The Soviet Economy: How it really works.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xiv, 255. $17.95. *JEL 79–0674*

Bases the description of the Soviet economy on examination of writings of Soviet scientists, economists, and other individuals directly involved in the Soviet economic system. Discusses topics such as the Soviet adaptation of the market, national economic planning in general and in the Soviet Union, the militarization of the Soviet economy, national accounting, industry, labor, agriculture, domestic trade, finances, and foreign trade. Argues that "the Soviet economic system is the fruit of an ill-considered, poorly thought out, and crudely conducted experiment," and "the general, long-term prospects under the present conditions are for the Soviet economy as a whole to work less effectively, increasing the gap between its scientific and technical level and that of the leading countries." Until his death in 1977, the author taught at the U.S. Army Institute for Advanced Russian and East European Studies in Germany. Index.

LEGUM, COLIN, ET AL. *Africa in the 1980s: A continent in crisis.* 1980s Project/Council on Foreign Relations. Introduction by CATHERINE GWIN. New York; London; Tokyo and Toronto: McGraw-Hill, 1979. Pp. xii, 232. $9.95, cloth; $6.95, paper. *JEL 79–0675*

Three studies of the prospects for economic and political development in the nations of sub-Saharan Africa in the 1980's, their roles in world politics, and the possibilities of external intervention. In the first study, Colin Legum discusses the likelihood of continuing ethnic conflict within and among African states as well as increased involvement by major outside powers in these conflicts. The focus of the second study by I. William Zartman is on the politics of managing scarce domestic resources and the sociopolitical trends within Africa and with non-African countries. In the third study, Steven Langdon and Lynn Mytelka argue that strong external links "have led and are leading to increasing segmentation and inequality in many African countries, to growing employment problems, and to ongoing poverty for most Africans." They predict changes in development policy toward greater self-reliance. Includes an introduction by Catherine Gwin. Selected bibliography; index.

LEPTIN, GERT AND MELZER, MANFRED. *Economic reform in East German industry.* Translated from the German by ROGER A. CLARKE. Economic Reforms in East European Industry Series. Oxford and New York: Oxford University Press, 1978. Pp. xxv, 200. $32.00. *JEL 79–0676*

Assesses the economic and political impact on East Germany of the reform program introduced in 1963 known as the "New Economic System" (NES). Discusses the factors leading up to the decision to experiment with a centrally-coordinated limited incentive system; the role of state planning under the NES; changes in enterprise-level management methods; causes of the termination of NES in 1970; and performance of the economy after NES through 1975. The authors are Professor in the East European Institute of the Free University of Berlin and Researcher at the German Institute of Economic Research, respectively. Index.

MOMOYAMA GAKUIN UNIVERSITY, THE RESEARCH INSTITUTE. *Symposium of Bocconi University and Momoyama Gakuin University, 23–24 August 1977: Changing contemporary Japanese society: From the viewpoint of international comparison.* Osaka: Author, 1977. Pp. 115. Paper. *JEL 79–0677*

Eleven papers plus three addresses by Italian and Japanese scholars compare economic, social, political, and historical conditions in Japan and Italy. Part one compares Japanese and Italian conditions and policies pertinent to postwar economic growth. Part two considers the relationship between government and business in each country. Part three focuses on the political processes in the postwar period. Part four discusses the role of trade unions in Italy and postwar changes in the occupational and employment structure in Japan. No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *OECD Economic Surveys: France.* Paris: Author, 1979. Pp. 63. $3.00 per country; $50.00, per series; paper. *JEL 79–0678*

Surveys recent domestic trends in the French economy; identifies the determinants of the improvement in France's balance-of-payments; analyzes the conduct of economic policy; and concludes with the outlook for 1979 and a discussion of economic policy. Forecasts a less favorable outlook than the French authorities, predicting a growth of activity closer to 3 percent than 4 percent, and recommends cautious policy with regard to France's high rate of inflation. Includes a statistical annex. No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *OECD Economic Surveys: United Kingdom*. Paris: Author, 1979. Pp. 60. $3.00, paper. *JEL 79-0679*

Reports the economic developments in the United Kingdom in 1978; discusses fiscal and monetary policies during the late 1977–78 period; and examines the progress and the policies for recovery from the 1974/75 recession. Cites economic data including developments for 1978: the recovery in productive investment, a continued fall in unemployment, an approximate balance in the current external account, a reduction in price inflation, and a stable exchange rate. Calling inflation the U.K.'s most pressing problem, advises tight monetary and fiscal policies, the need for a greater share of profits in national income, and the stimulation of growth in investment. Statistical annex; no index.

RABUSHKA, ALVIN. *Hong King: A study in economic freedom*. The 1976–77 William H. Abbott Lectures in International Business and Economics. Chicago: University of Chicago, Graduate School of Business, 1979. Pp. x, 129. $10.00. *JEL 79-0680*

A study of the political economy of Hong Kong. Focuses (1) on its political geography and historical evolution as a free market economy, (2) public finance and the policy of nonintervention, (3) the facts of "doing business" in Hong Kong, and (4) a consideration of Hong Kong's uniqueness and its future. Based on the 1976–77 William H. Abbott Lectures in International Business and Economics delivered at the University of Chicago. Contains statistics up to March 1978. The author is Senior Fellow at the Hoover Institution. No index.

STANDING, GUY AND SZAL, RICHARD. *Poverty and basic needs: Evidence from Guyana and the Philippines*. A World Employment Programme Study. Geneva: International Labour Office, 1979. Pp. viii, 154. $7.45, paper. *JEL 79-0681*

Two studies, individually written, of the extent and incidence of poverty and economic inequality in Guyana and the Philippines. Each focuses on basic needs, the basic needs-oriented development policies of the two governments, and the "inadequate and inappropriate" data available. The authors agree that structural factors are responsible for poverty and inequality and that marginal policies designed to improve a "basic need" separate from the economic, political, and social systems are unlikely to achieve sustained redistributional income. In the paper "Socialism and Basic Needs in Guyana," Guy Standing concludes that "poverty and inequalities of various kinds remain serious and reflect, in large part, the barriers to the transformation of the economic and social structure erected in the course of the contrived stagnation of Guyana before independence." In the second paper, "The Distribution of the Benefits of Growth: Basic Needs in the Philippines," Richard Szal concludes that the development strategies of redistribution with growth have not greatly improved the welfare of the Filipino poor, and he emphasizes the integration of the people's expressed needs into the planning process. Selected bibliography; no index.

TAYLOR, LANCE. *Macro models for developing countries*. Economics Handbook Series. New York; London; Montreal and Paris: McGraw-Hill, 1979. Pp. xii, 271. $19.00. *JEL 79-0682*

Draws together macro models designed for examining the difficulties faced by LDC's. Deals first with short-run models. Reviews national-accounting frameworks, applying particular ones to Portugal and Egypt and discusses three models incorporating markup pricing and designed with inflationary shifts in mind. Moves to medium- and long-run models that deal with growth and inflation and discusses applications of two flexible-price models to Brazil. Also covers: fixed-price disequilibrium models; models related to money, credit, and inflation; the Ricardian models of long-term economic change; surplus labor models; the Leontief-Sraffa model; and project evaluation criteria. Requires only elementary calculus and linear algebra; technical material has been relegated to the appendices. The author is Professor of Nutrition Economics at the Massachusetts Institute of Technology. Subject and name indices.

TOWNSEND, JAMES R., compiler. *The People's Republic of China: A basic handbook*. New York: Council on International and Public Affairs in cooperation with The China Council of the Asia Society; distributed by Learning Resources in International Studies, New York, 1979. Pp. viii, 96. $3.50, paper. *JEL 79-0683*

Outlines the information on land (including weather, economic, political, and population

maps) and the Chinese people; the history of the Chinese revolution; government and foreign relations; economic development and foreign trade; social organization, education, and public health; and Chinese daily life. Offers references and suggested readings for more detailed information. The compiler is Professor of Political Science at the University of Washington. No index.

See also: Book Numbers *JEL 79–0656, 79–0657, 79–0660, 79–0686, 79–0688, 79–0702, 79–0739, 79–0835*

130 Economic Fluctuations; Forecasting; Stabilization; and Inflation

BACKMAN, JULES, ed. *Economic growth or stagnation: The future of the U.S. economy.* The ITT Key Issues Lecture Series. Foreword by HAROLD S. GENEEN. Indianapolis: Bobbs-Merrill, 1978. pp. xii, 156. Paper. *JEL 79–0684*

Six papers, comprising the seventh volume in the Key Issues Lecture Series at the College of Business and Public Administration, New York University. The first lecture, by Jules Backman, Research Professor Emeritus of Economics, New York University, presents an overview of the question "Economic Growth or Stagnation?" Professor Backman reviews the stagnation theories and discusses current problem areas in the U.S. economy—low population growth, high energy prices, environmental costs, raw materials availability, capital shortages, and the continuing shift to a service economy; he concludes that "economic growth must remain a major goal of public policy." In the subsequent papers, Edwin Mansfield discusses the role of technology; Norma Pace, the role of capital creation; Bruce C. Netschert, availability of mineral raw materials; John C. Sawhill, the role of energy; and Victor R. Fuchs, the service industries and U.S. economic growth since World War II. No index.

BONELLO, FRANK, J. AND SWARTZ, THOMAS R., eds. *Alternative directions in economic policy.* Notre Dame and London: University of Notre Dame Press, 1978. Pp. xvii, 183. $12.95, cloth; $3.95, paper. *JEL 79–0685*

Six articles (five previously unpublished) assessing the impact of U.S. economic policy on the world economy and the impact of global developments on U.S. economic policy. Contributions include "Macroeconomic Performance and Policy: A Thirty-Year Perspective" (Frank J. Bonello and Thomas R. Swartz); "Crisis in the American Economy" (Charles K. Wilber and Kenneth P. Jameson), "Understanding Inflation" (Lawrence R. Klein), "Business and Government: The Changing Relationship" (Murray L. Weidenbaum), "The Social Control of Economic Power" (Willard F. Mueller), and "The Great Recession of the 1970s: Domestic and International Considerations" (Leonard A. Rapping). The editors are Associate Professors of Economics, University of Notre Dame. No index.

BRITTAN, SAMUEL. *The economic consequences of democracy.* New York: Holmes & Meier, 1977. Pp. xvi, 298. $19.50, cloth; $9.75, paper. *JEL 79–0686*

This book is now available from an American distributor. [See *JEL no. 78–0392* for annotation.]

CENTER FOR THE STUDY OF AMERICAN BUSINESS. *Alternative policies to combat inflation: Proceedings of a conference cosponsored by Center for the Study of American Business and Federal Reserve Bank of St. Louis, St. Louis, Missouri, November 28, 1978.* Working Paper no. 40. St. Louis: Washington University Center for the Study of American Business, 1979. Pp. iv, 120. Paper. *JEL 79–0687*

Comprises three major papers, two supplemental papers, comments, and the Keynote address, by Karl Brunner, who criticizes what he feels is a commitment to permanent inflation and advocates lower monetary growth. The major papers are by: Beryl M. Sprinkel, who argues that inflation could be controlled by keeping spending in line with the increases in total production; Sidney Weintraub, who proposes a tax-based incomes policy for inflation control; and Robert Nathan, who supports guidelines and comments that policies announced by President Carter for dealing with government spending, taxation, regulations, competition, productivity, and trade policies are equally important measures for inflation control. Supplemental papers include the discussions of the relation between monetary policy and institutional structure (Murray L. Weidenbaum) and the government's stake in economic instability (Paul Craig Roberts). No index.

GHOSH, SANTIKUMAR. *Inflation, structural change and external equilibrium.* Calcutta: World Press, 1978. Pp. vii, 125. $2.50, paper. *JEL 79–0688*

Briefly reviews the meaning, types, causes, consequences of, and various theoretical approaches to inflation; then recounts the recent Indian experience (1960–75) with inflation, particularly in industry. Also discusses a "structural analysis of Indian economic problems and policies" and "India and international trade." Appendices discuss "problems of inflation under socialism" and "economic integration of developing countries for mutual development." The author is Head, Depart-

ment of Economics, Rabindra Bharati University. Index.

ÖZMUCUR, SÜLEYMAN. *Cycles in money and prices: Spectral representation.* Böğaziçi University Publications no. 140. Istanbul: Böğaziçi University, School of Administrative Sciences, Department of Economics, 1978. Pp. viii, 86. Paper. *JEL 79-0689*

Investigates the existence of cycles and lead-lag relationships in money and prices using univariate and bivariate spectral analysis. Surveys theoretical and empirical work on relationships between money, income, and prices; discusses problems associated with practical applications of spectral techniques; and provides an empirical study of the U.S. economy from May 1907 to April 1974 and of the Turkish economy from January 1961 to November 1973. Findings suggest the existence of 40-month cycles in money, output, and prices and suggest a consistent lead of money over prices. Originally prepared as a M.A. dissertation for the Department of Econometrics at the University of Manchester. The author is on the Faculty of Economics at Böğaziçi University, Istanbul. Index.

PETERSON, GLEN. *Money is what money does: A minibook on the macroeconomy.* Hicksville, N.Y.: Exposition Press, 1979. Pp. 116. $7.00. *JEL 79-0690*

Views of an engineer/physicist on the composition of the macroeconomy and its functioning. In an attempt to examine why that part of economy which accumulates and transmits wealth and power "gets the wobblies every so often and breaks," the author specifies the "Fort Wayne Model—1944" (year developed), in which the functional equations are reducible to two variables: time and money. Argues that the quantity of money should be a continuous, single-valued analytic function and defines money as the amount of money invested in the macroeconomy at any instant of time, taking into accout interest and dividends. Argues that all our economic problems are caused by erroneous money concepts and policies—"we simply don't generate enough macro-income to meet our macro-expenditures," *i.e.,* we are insolvent. The author, founded his own firm in 1956. No index.

POSNER, MICHAEL, ed. *Demand management.* National Institute of Economic and Social Research, Economic Policy Papers, no. I. London: Heinemann Educational Books, 1978. Pp. ix, 242. $28.95, cloth; $12.95, paper. *JEL 79-0691*

Eleven papers and a report on discussion on the application of alternative methods of demand management to certain real economic situations, originally presented at a conference sponsored by the National Institute of Economic and Social Research (NIESR) held at Birkbeck College in December 1977. In part one proponents for the Cambridge Economic Policy Group, the NIESR group, the London Business School, and the Monetarist school outline their perceptions of action for demand management for Britain in three periods: 1964–69, 1970–75, and 1977–81. Part two includes seven papers that comment on the methods, sources, and specifications of the various models and their findings for fiscal, monetary, stabilization, and balance of payments policies. The last paper reports on discussions, emphasizing the major analytical and policy stands. The editor is a Fellow at Pembroke College and a Reader in Economics in the University of Cambridge. Index.

SPIVEY, W. ALLEN AND WROBLESKI, WILLIAM J. *Econometric model performance in forecasting and policy assessment.* American Enterprise Institute Studies in Economic Policy, no. 225. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 77. $3.25, paper. *JEL 79-0692*

Analyzes modes of evaluating econometric model performance and studies the actual forecasting performance of four large-scale econometric models. Includes a brief overview of the characteristics of linear and nonlinear models and of conventional methods of model evaluation as well as a survey of previous studies of the forecasting performance of major econometric models. Provides a study of descriptive measures of quarterly forecast errors from the models of Wharton, DRI, Chase Econometric Associates, and the Department of Commerce's Bureau of Economic Analysis. Discusses the major issues of statistical inference in analyzing forecast performance and presents a critique of some studies of the policy multiplier performance of econometric models. Finds traditional descriptive measures of forecast performance to be inadequate and time-period specific; finds current studies ignoring the extensive correlation structure of forecast errors; points to the need for small sample inference procedures; and concludes that existing studies fail to establish the plausibility of multiplier paths calculated from econometric models. The authors are both Professors of Statistics at the University of Michigan Graduate School of Business Administration. No index.

STURM, A. BRYAN, ed. *Proceedings of the third Pacific Basin Central Bank conference on econometric modelling.* Volume 1. PENNY JOSEPH, As-

sistant Editor. Wellington: Reserve Bank of New Zealand, 1978. Pp. 212. Paper. *JEL 79-0693*

Nine previously unpublished papers on theoretical and practical aspects of modeling the financial sectors of open economies by bankers and economists. Topics treated include money in the open economy, the monetary sector and the balance of payments, financial modeling, macroeconomic modeling, and market surveys. Also includes opening and closing addresses, a conference summary, and a summary of workshop papers. Index.

VOLCKER, PAUL A. *The rediscovery of the business cycle.* The Charles C. Moskowitz Memorial Lectures, no. 19. New York: Macmillan, Free Press; London: Collier Macmillan, 1978. Pp. 86. $10.00. *JEL 79-0694*

Argues that although there are substantial reasons to believe that the U.S. economy can avoid 1930's scale depressions, there is some tendency toward long-term (10 to 20 year) business cycles and that these swings are influenced by confidence and uncertainty as well as other exogeneous events. Reviews some of the stabilization policies since the Depression and the recessions of the postwar period and concludes that the 1974–75 recession may have been the turning point of a long swing. Advises wider recognition of the limits of demand management especially when expectations are hypersensitive to inflation threats and warns against considering monetary policy as a single remedy for inflation. Suggest that "a more cautious and conservative approach by business and government can be the harbinger of . . . renewed growth and stability, for it can provide a kind of prophylactic against renewed economic excesses." Mr. Volcker is President and Chief Executive Officer of the Federal Reserve Bank of New York. Includes discussions by Robert A. Kavesh and M. Ishaq Nadiri and a Foreword by Abraham L. Gitlow. No index.

See also: Book Number *JEL 79-0715*

200 Quantitative Economic Methods and Data

210 Econometric, Statistical, and Mathematical Methods and Models

CARGILL, THOMAS F. *Money, the financial system, and monetary policy.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xxi, 552. $16.95. *JEL 79-0695*

Policy-oriented text for a one-semester course in money and banking that stresses the significant changes in monetary economics of the past decade, primarily from the policy point of view. In five parts: money and the economic function of the financial system; the institutions, formulation, and execution of monetary policy; the theoretical foundations of policy; the monetarist and Keynesian debate and other issues; and international considerations. Assumes a background in economic principles. Chapters include a summary, reading list, and questions for discussion. The author is at the University of Nevada, Reno. Name and subject indices.

HAINES, BRIAN. *An introduction to quantitative economics.* Economics and Society Series, no. 4. London; Boston and Sydney; Allen and Unwin, 1978. Pp. 166. $18.95, cloth; $8.95, paper. *JEL 79-0696*

Introduces and explains the methods and "jargon" used in testing theories of hypotheses in economics and the difficulties involved in interpreting results. Designed for a second-year undergraduate course introducing econometrics, for general courses in applied economics, and as a complement to courses in theory. Covers the uses of econometrics and equations involving economic variables; least squares and simple regression formulas; nonlinear relationships, multiple regression, and multicollinearity; implications of standard assumptions made about the error term; sources and types of statistical data, distributed lag models, and dummy variables; several applied studies in macroeconomics (including wage and price inflation, monetary policy, investment expenditure, and the consumption function); and the use of structural equations and the idea of two-stage least squares. Includes student exercises and answers to the numerical parts of questions. Assumes some familiarity with mathematics and statistics. The author is Lecturer in Economics, Polytechnic of Central London. Further reading; index.

HAUSMANN, DIRK, ed. *Integer programming and related areas: A classified bibliography, 1976–1978.* Lecture Notes in Economics and Mathematical Systems, Operations Research, no. 160. Berlin and New York: Springer-Verlag, 1978. Pp. xiv, 314. $16.00, paper. *JEL 79-0697*

Bibliography of available publications related to integer programming, published in 1976, 1977, and January–March 1978. Classifies 3162 publications of 2742 authors alphabetically by first author, by 57 main subject areas (and 73 sub-categories), and with a co-author index. Includes full bibliographic information. Represents a supplement to an earlier bibliography of 4704 titles (edited by

Claus Kastning, 1976); includes some items missed in the earlier bibliography. No index.

HWANG, CHING-LAI AND MASUD, ABU SYED MD. *Multiple objective decision-making—Methods and applications: A state-of-the-art survey.* In collaboration with SUDHAKAR R. PAIDY AND KWANGSUN YOON. Lecture Notes in Economics and Mathematical System, no. 164. Berlin and New York: Springer-Verlag, 1979. Pp. xii, 351. $17.80, paper. *JEL 79–0698*

Reviews and classifies about two dozen recently proposed methods for multiple objective decision-making (MODM), including discussions of actual and proposed applications. Defines and introduces a standardized notation for basic MODM concepts, presents characteristic features and computational procedures for each method along with numerical illustrations, and classifies applications into 12 major topics based on subject area, complete with references. The authors are on the Faculty of Industrial Engineering at Kansas State University and at New Mexico State University, respectively. Bibliography of 24 books, monographs, and conference proceedings and 424 papers, reports, and theses. No index.

MOHLER, R. R. AND RUBERTI, A., eds. *Recent developments in variable structure systems, economics and biology: Proceedings of US–Italy Seminar, Taormina, Sicily, 1977, August 29–September 2, 1977.* Lecture Notes in Economics and Mathematical Systems, Systems Theory, no. 162. Berlin and New York: Springer-Verlag, 1978. Pp. vi, 326. $16.00, paper. *JEL 79–0699*

Twenty-three previously unpublished articles on bilinear systems, quadratic systems, and more general variable structure or adaptive systems as models in applied economics and biology. Authors include American, Italian, and Dutch academics in the fields of systems engineering, economics, biology, and mathematics. Papers analyze variable structure systems in terms of system modeling, stability, optimal control, variable coefficient models, filtering theory, parameter identification, and mathematical properties. Includes specific applications to ecological systems, information structures, migration and population growth, and immunology. No index.

OSTROSKY, ANTHONY L., JR. AND KOCH, JAMES V. *Introduction to mathematical economics.* Boston and London: Houghton Mifflin, 1979. Pp. 371. $15.95. *JEL 79–0700*

Textbook designed as a one-semester introduction to the use of mathematics in economics and business at the undergraduate level. Includes a review of basic pre-calculus mathematics, an introduction to differential and integral calculus and their applications, a chapter on matrix algebra, and introductions to linear programming and input-output analysis. Appendices include a standardized examination. Examples and applications throughout. Separate solutions manual for instructors (by Linda C. Goosens) covers answers to all exercises ($1.10). The authors are Assistant Professor of Economics at Illinois State University and Dean of the School of Arts and Sciences at Rhode Island College, respectively. Index.

PHILLIPS, P. C. B. AND WICKENS, M. R. *Exercises in econometrics.* 2 Vols. Oxford: Philip Allan; Cambridge, Mass.: Ballinger, 1978. xxxvi, 266; xxxvi, 267–493. *JEL 79–0701*

Provides worked and unworked exercises in econometric theory and applied econometrics, to supplement primary textbook material for advanced undergraduates and graduate students by detailed exercises and recent advances in econometrics. First volume consists of five chapters: concepts, methods and models; the linear model; the multivariate linear model; further aspects of the linear model; further stochastic models. Second volume consists of two chapters: simultaneous equation models and dynamic models. Each chapter includes an introduction to the subject matter, a section of from eight to twenty-five exercises, an additional section of discussion and solutions, and a section of supplementary questions. "Much of the material . . . has not yet appeared in textbooks." Attempts to include references to the major textbooks throughout. Does not treat spectral analysis nor Bayesian econometrics. The authors are Professor of Econometrics at the University of Birmingham (U.K.), and Reader in Econometrics at the University of Essex, respectively. Bibliographies and indices in each volume.

See also: Book Numbers *JEL 79–0689, 79–0726, 79–0765*

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

GRANT, JAMES P. *Disparity reduction rates in social indicators: A proposal for measuring and targeting progress in meeting basic needs.* ODC Monograph, no. 11. Washington, D.C.: Overseas Development Council, 1978. Pp. 80. $3.00, paper. *JEL 79–0702*

Develops a "disparity reduction rate" (DRR), which is to be used as a complement to the per capita GNP indicator in evaluating progress. After discussing basic needs and the questions that arise when trying to meet them, the author presents

the DRR, which in essence focuses on the disparity between the needs of life of the majority of the people in the most advanced countries and the actual conditions in the country under consideration; the DRR measures the rate at which this disparity narrows or widens. Applies the DRR directly to the cases of literacy, infant mortality, life expectancy, and the physical quality of life index. Estimates of the DRR for 124 countries for 1960–75 plus those for all 50 states of the U.S. for 1930–70 appended. The author is President and Chief Executive Officer of the Overseas Development Council. No index.

OSHIMA, HARRY T. AND MIZOGUCHI, TOSHIYUKI, eds. *Income distribution by sectors and overtime in East and Southeast Asian countries: Selected papers presented for the CAMS-Hitotsubashi Seminar held at Narita on September 5 to 7, 1977.* Quezon City, Philippines: Council for Asian Manpower Studies; Tokyo: IADRPHU Institute of Economic Research, Hitotsubashi University, 1978. Pp. x, 375. Paper. *JEL 79–0703*

Fourteen previously unpublished papers discussing (1) sector income distribution, covering origins of inequality, and factors causing changes in inequality over time, and (2) expenditure distribution. Papers focus on the experience of nine countries: South Korea, Japan, Taiwan, Hong Kong, the Philippines, Thailand, Malaysia, Singapore, and Indonesia. Includes comments on the seminar and summaries of three additional papers (two of which explore expenditure distributions). The editors are at the Council for Asian Manpower Studies, Quezon City, and the Institute of Economic Research, Hitotsubashi University, respectively. No index.

See also: Book Numbers *JEL 79–0625, 79–0654, 79–0656, 79–0684, 79–0842*

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

ANGELL, GEORGE. *Winning in the commodities market: A money-making guide to commodity futures trading.* Garden City, N.Y.: Doubleday, 1979. Pp. xix, 333. $12.00. *JEL 79–0704*

A step-by-step guide to developing strategies for futures trading. Discusses the fundamentals of the commodities market, the advantages and disadvantages of futures trading, the roles of the speculator and the broker, price forecasting, chart reading, leverage, pyramiding, and other techniques. The author is a business and financial writer and an active futures speculator. Glossary; index.

BERNSTEIN, PETER L., ed. *Security selection and active portfolio management.* New York: Institutional Investor Books, 1978. Pp. 314. *JEL 79–0705*

Twenty papers originally published in *The Journal of Portfolio Management* volumes 2, 3, and 4, on stock selection. Part one discusses the controversy about effective and profitable stock selection, and part two discusses the use and value of traditional stock selection techniques, including corporate returns, the Benjamin Graham system, relative stock valuation, financial ratios, buying stocks that are making new highs, and dividend-based discount rates. The last two parts look at security selection as related to modern portfolio theory and recent techniques. P. L. Bernstein is editor of *The Journal of Portfolio Management.* No index.

CLEETON, CLAUD E. *Strategies for the options trader.* New York; Chichester, England; Brisbane and Toronto: Wiley, Wiley-Interscience, 1979. Pp. ix, 172. *JEL 79–0706*

Describes stock options, discusses their uses, and provides tools for their evaluation and for maximizing leverage for greater profits. Includes treatments of the short side of the options game, straddles and related combinations, timing, indicators, signals, and option volatility. Provides tables and hand calculator programs for finding normal values of puts and calls. The author is a Fellow of the Institute of Electrical and Electronic Engineers. Index.

DEANE, R. S. AND NICHOLL, P. W. E., eds. *Monetary policy and the New Zealand financial system.* Wellington: Reserve Bank of New Zealand, 1979. Pp. 353. *JEL 79–0707*

Twenty-four articles providing the Reserve Bank of New Zealand's views on monetary policy and financial institutions in New Zealand, most of which have previously appeared in the Reserve Bank's *Bulletin* or in its series of research papers. Includes descriptions of bank and non-bank financial institutions, the monetary system, and monetary policy. Also treats special topics such as housing and export finance, farm income stabilization, and the role of money in the Reserve Bank's econometric model of the economy. Bibliography; index.

EDWARDS, FRANKLIN R., ed. *Issues in financial regulation.* Regulation of American Business and Industry Series. Columbia University Center for Law

and Economic Studies. New York; London; Paris and Tokyo: McGraw-Hill, 1979. Pp. xv, 526. $35.00. *JEL 79-0708*

Twelve previously unpublished analytical papers by legal and economic scholars, plus related commentary, on the legal and economic dimensions of financial regulation, originally presented at a series of faculty seminars held at Columbia University's Center for Law and Economic Studies in the 1976-77 academic year. Papers consider the conceptual foundations of government intervention and the effects of this intervention. The authors examine: bureaucratic competition and the structure of bank regulation, solvency regulation, regulating conflicts of interest in the financial firm, information disclosure regulation, consumer protection in credit markets, electronic funds transfer systems, credit allocation schemes, multinational banking, and studies on banking competition and performance. The seminars found in part that "financial institutions are currently overregulated" and that considerable regulation could be relaxed or eliminated without jeopardizing the goals of such regulation. The editor is Professor of Business, Graduate School of Business, Columbia University. Index.

FISCHER, DONALD E. AND JORDAN, RONALD J. *Security analysis and portfolio management.* Second edition. Englewood Cliffs, N.J.: Prentice-Hall, [1975] 1979. Pp. xvi, 604. $18.95. *JEL 79-0709*

Introductory undergraduate- or graduate-level textbook on investing as a rational decision-making process. Organized in six sections: the investment environment; framework of risk-return analysis; common-stock analysis; bond analysis; technical analysis and the efficient market theory; and portfolio analysis, selection and management. Includes a "comprehensive continuing illustration of the application of the techniques" to the logging industry and to Holiday Inns. Revisions include: updating of data; a new chapter on options; rewritten or expanded treatments of transaction costs, taxes, accounting information, fixed income securities, and end-of-chapter problems. Teaching manual includes information on administering a securities trading game. The authors teach at the University of Connecticut and the University of Bridgeport, respectively. Index.

FRANCIS, JACK CLARK AND ARCHER, STEPHEN H. *Portfolio analysis.* Second edition. Prentice-Hall Foundations of Finance Series. Englewood Cliffs; N.J.: Prentice-Hall, [1971] 1979. Pp. xvi, 411. $16.95. *JEL 79-0710*

Text emphasizing economic rationale, mathematical definitions, tools, and numerical examples to the exclusion of institutional and descriptive material. This edition has been expanded to seven parts: risk estimates; portfolio analysis; portfolio theory; utility analysis; asset and liability management; nonsymmetric distributions of returns; and other issues. The number of appendices has been expanded from six to eight, and they have been relocated directly to within the chapters themselves. Chapters include lists of references and questions and problems. [See *JEL no. 72-0141* for annotation of first edition.] The authors are at Baruch College, City University of New York, and Willamette University, Salem, Oregon, respectively. Subject and name indices.

FROWEN, STEPHEN F., ed. *A framework of international banking.* Guildford, England: Philip Thorn Associates, Guildford Educational Press, 1979. Pp. xiv, 273. £15.00. *JEL 79-0711*

Eleven previously unpublished papers by British economists on the effectiveness of existing international banking facilities, originally presented in the Management Development Course for Bankers, held at the University of Surrey in July 1978. Following three papers by David T. Llewellyn on a theoretical framework for international financial intermediation, international banking in the 1970's, and the international monetary system and two papers by Geoffrey E. J. Dennis on external bank positions in both foreign and domestic currencies are papers on techniques in international banking (Steven I. Davis), debt financing problems of LDC's (George Forrest and Noel Mills), and the evolution of the international monetary system (Paul Bareau). Also includes two papers by Ray Shaw on the U.K. money market and London as a financial center, and a paper by Richard Walton on the financing of North Sea oil. The editor at the University of Surrey. Selected bibliography; index.

GOLDBERG, LAWRENCE G. AND WHITE, LAWRENCE J., eds. *The deregulation of the banking and securities industries.* Lexington and Toronto: Heath, Lexington Books, 1979. Pp. vi, 356. $21.95. *JEL 79-0712*

Fifteen previously unpublished papers and related comments by academicians, industry executives, and government regulators on the regulation of financial markets, originally presented at a conference sponsored by the Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, held at the Center on 18-19 May 1978. Part one discusses the regulation and deregulation issues facing the capital markets. Part two focuses on the recent experiences in the securities market,

and part three discusses bank regulation. The last part examines the areas where banking and the securities industries overlap and the importance of the Glass-Steagall Act of 1933 separating the banking and "securities business." Themes emerging include: the trend toward deregulation is not ubiquitous; regulation should be even-handed; and the effect of the technological changes, such as electronic tellers and fund transfer, may change the nature of competition among depository institutions. The editors are Associate Professors of Economics and Finance, and Economics, respectively, at the Graduate School of Business Administration, New York University. No index.

GRADDY, DUANE B., ed. *The bank holding company performance controversy.* Washington, D.C.: University Press of America, 1979. Pp. xiv, 807. $23.00, paper. *JEL 79-0713*

Forty-two previously published articles on the impact of bank holding companies on the operating performance of affiliated firms. Grouped into ten sections, the papers discuss (1) the Bank Holding Act and its interpretation, (2) the growth of bank holding companies, (3) univariate studies of the performance of affiliated banks, (4) multivariate studies of performance, (5) the performance of individual bank holding companies, (6) profitability, (7) capital adequacy, (8) competitive implications, (9) nonbank activities, and (10) summaries of social benefits and costs. Includes editor's introductions to each section. The editor is Professor of Economics and Finance, Middle Tennessee State University. No index.

LEUTHOLD, RAYMOND M., ed. *Commodity markets and futures prices.* Chicago: Chicago Mercantile Exchange, 1979. Pp. 279. $4.00, paper. *JEL 79-0714*

Eleven previously unpublished papers reporting recent empirical and theoretical research on commodity futures markets. Most of the contributions present and empirically test basic hypotheses relating to livestock or foreign currency commodities traded on the Chicago Mercantile Exchange. Four basic areas treated include: commodity-price behavior; the forward-pricing ability of futures markets; the financial implications of a hedging program; and price relationships over time, space, or form. The editor is at the University of Illinois, Urbana-Champaign. No index.

POLLAN, WOLFGANG. *The cyclical responsiveness of the demand for money and its stability in an open economy: The case of Austria.* Göttingen: Vandenhoeck and Ruprecht, 1978. Pp. 69. DM 18.00, paper. *JEL 79-0715*

Constructs a model of consumer demand for assets, taking into account a budget constraint for the consumer sector and applies the model to Austria. Finds indications of a shift in the demand for money equations, regardless of the specification chosen and argues that speculative capital flows in the international financial markets "produced shifts in the demand for money function not only in Austria but also in other countries." Results show the importance of the distinction between short-term and long-term accruals and disbursals of money. Suggests that unless monetary variables in studies estimating the relative consequences of fiscal and monetary policies are adjusted for speculative capital flows, results of such studies "will be biased against the monetarist interpretation of economic events." No index.

RICHARDS, PAUL H. *UK and European share price behaviour: The evidence.* New York: Nichols; London: Kogan Page, 1979. Pp. 294. $30.00. *JEL 79-0716*

Five chapters examining the efficient market hypothesis, each consisting of a lengthy discussion, followed by previously published articles, 20 in all. Examines five topics: (1) the "weak form hypothesis" of market efficiency (a restatement of the random walk model); (2) risk and its importance in formulating strategy; (3) the semi-strong form of the efficient market hypothesis, which places emphasis on the analysis of published information in the estimation of the value of share prices; (4) the strong form of the efficient market hypothesis, which states that the price of a share represents and fully discounts all that can be known about the company and the valuation of its shares; and (5) the efficiency in the European stockmarkets. Sections 1, 3, and 4 refer to the U.K. stockmarket. Concludes in part that there is strong evidence in favor of efficiency for the weak and semi-strong form that "the stockmarket rapidly and accurately discounts new information into share prices," implying that a system based on historical share price data is futile; the evidence from the strong form hypothesis is not so powerful. P. H. Richards is a member of the Corporate Disclosure Committee of the Society of Investment Analysts, U.K. Bibliography; author index.

SCHMIDT, HARTMUT. *Advantages and disadvantages of an integrated market compared with a fragmented market: Report of a study.* Collection Studies: Competition—Approximation of Legislation Series, no. 30. Brussels: Office for Official Publication of European Communities, 1977. Pp. xxii, 461. $8.50, paper. *JEL 79-0717*

Analyzes and evaluates various stock market structures in terms of their procedural efficiency. Develops criteria for assessment of stock markets and describes how securities are traded on secondary markets of each of the nine EEC countries, in Japan, and in the United States. Assesses the advantages of selected forms of segmented secondary markets over a homogeneous central stock market. Concludes that EEC securities market policy should not attempt to directly intervene with national secondary security markets, but should "lay the foundations for the competition of market organizers, so as to indirectly achieve markets properly segmented and adapted to the conditions prevailing in each country." The author is Professor of Finance at the University of Hamburg. No index.

THOMAS, LLOYD B., JR. *Money, banking, and economic activity.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xi, 626. $18.95. *JEL 79-0718*

Policy-oriented text for a junior or senior course in money and banking. After covering the nature of money and financial institutions, commercial banking, and interest rates, the author considers money supply, monetary policy, monetary theory, the Keynesian-monetarist debate, inflation, and international finance. Study aids include questions for consideration and suggestions for additional reading. The author is at Kansas State University. Index.

ZWASS, ADAM. *Money, banking & credit in the Soviet Union & Eastern Europe.* Translated by MICHEL C. VALE. White Plains, N.Y.: Sharpe, 1979. Pp. x, 233. $18.50. *JEL 79-0719*

Evaluates the possibilities and units of the monetary and credit system of the planned economies in the Eastern bloc in the light of the reorganization of the banking system, the evolution of credit policy, increased activities of the international CMEA banks, and expansion of East-West trade. Assesses the effectiveness of the controlling functions of the Eastern banking system and argues that "stability of the currency in the planned economy is but a fiction." Examines experiences of Eastern countries in drawing limits between state budget subsidies and state banking credit, to "multilateralize" foreign trade, and to improve the attraction of the transferable ruble for developing countries. Concludes that "the integration of Eastern markets into the world economic and monetary system is a condition *sin qua non* for further intensification of East-West economic and political relations." The author is a Research Associate at the Viennese Institute for Comparative Economic Studies. No index.

See also: Book Numbers *JEL 79-0629, 79-0690, 79-0693, 79-0771*

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

EICHNER, ALFRED S. AND BRECHER, CHARLES M. *Controlling social expenditures: The search for output measures.* Foreward by ELI GINZBERG. Landmark Studies. Conservation of Human Resources Series, no. 8. Montclair, N.J.: Allanheld Osmun; distributed by Universe Books, New York, 1979. Pp. xii, 210. $23.50. *JEL 79-0720*

Examines the problem of control of social programs to make them work more effectively by examining and defending output goals and measures. Focuses on human resources programs in education, health, mental health, child welfare, social services, and public assistance. The approach in the first half is theoretical, and in the second empirical. Tests approach using programs in New York City and a survey of the city's existing information systems on human resource programs, including the 1975-76 employment training (manpower) programs, which had testable data on program performance. The experiment with the latter program leads to the "optimistic conclusion" that appropriate output measures can be constructed and used to monitor program performance. The authors are Professor of Economics, State University of New York at Purchase, and Associate Professor, Graduate School of Management and Urban Professions, the New School for Social Research, respectively. Both are Senior Research Associates, Conservation of Human Resources Project, Columbia University. Index.

FOX, WILLIAM F., ET AL. *Economies of size in local government: An annotated bibliography.* Rural Development Research Report no. 9. Washington, D.C.: U.S. Department of Agriculture, Economics, Statistics and Cooperatives Service, 1979. Pp. ii, 74. Free, paper. *JEL 79-0721*

Contains annotated listing by ten main subject areas of 133 papers, reports, books, and dissertations investigating the existence of economies of size or scale in non-metropolitan local goverment. As such, refers to supply side costs of providing services only; does not include literature concerned with demand changes related to the size of the governmental unit or those concerned with optimal city size. Generally includes literature only since 1959. Subject areas include general and theoretical work, work dealing with multiple services, and work assessing economies of size in each of eight specific service areas. Author index and bibliography of related topics.

GETZ, MALCOLM. *The economics of the urban fire department.* Johns Hopkins Studies in Urban Affairs. Baltimore and London: Johns Hopkins University Press, 1979. Pp. xii, 230. $16.50. *JEL 79–0722*

Intended as a case study of the allocation of resources in a public sector activity, analyzes forces shaping the provision of urban fire-fighting services and appraises the efficiency of these services based largely on a survey of 371 central city fire departments (with 187 tabulated responses) across the United States during 1975. Attempts to relate fire losses to personnel and tactics; examines impact of factor prices and city characteristics; explores the nature of incentives in fire-fighting service; pursues the issue of public versus private sector provision of fire-fighting services; and discusses relationships between quasi-output measures (*e.g.*, damage and casualties) and inputs in an attempt to measure the efficacy of different inputs relative to their prices. Devotes a chapter each to the labor market for fire fighters, technological change, and policy proposals. Evaluates the policy of financing the fire department with an excise tax on fire insurance premiums. The author is Assistant Professor of Economics at Vanderbilt University. Bibliography; index.

HERBER, BERNARD P. *Modern public finance.* Fourth edition. The Irwin Series in Economics. Homewood, Ill.: Irwin; Georgetown, Ontario: Irwin-Dorsey, [1967 . . . 1975] 1979. Pp. xv, 471. $16.00. *JEL 79–0723*

Introductory text. This edition has been shortened, but includes new material on: public choice and social decision efficiency; distributional equity in taxation; the new personal and corporate tax laws enacted in 1978; death and gift taxation; the aggregate public sector budgetary incidence discussion; and changes in CPI and WPI estimation and tax-based incomes policy. Statistical data have been updated. The author is at the University of Arizona. Index.

HOPKINS, BRUCE R. *The law of tax-exempt organizations.* Third edition. New York; Chichester, England; and Toronto: Wiley, Ronald Press, 1979. Pp. xi, 653. $34.95. *JEL 79–0724*

Describes federal tax laws relating to income tax exemption for qualified organizations. Material basically organized by type of tax-exempt organization; and includes descriptions of exemption application procedures, taxation of unrelated income, and other administrative and judicial procedures. Referenced throughout to sections of the Internal Revenue Code. Cumulative supplements will be published periodically and made available at extra cost. The author is Professorial Lecturer in Law at the George Washington University National Law Center. Index.

INSTITUTE OF INTERGOVERNMENTAL RELATIONS, QUEEN'S UNIVERSITY, AND ECONOMIC COUNCIL OF CANADA. *Proceedings of the workshop on the political economy of confederation.* Hull, Quebec: Canadian Government Publishing Centre, Supply and Services Canada, 1979. Pp. xl, 397. $6.50, Canada; $7.80, other countries; paper. *JEL 79–0725*

Twelve previously unpublished papers plus comments from a conference on the various impacts in the event of Quebec's secession from Canada, held at the Donald Gordon Centre for Continuing Education, Queens University, Kingston, Ontario, in November 1978. Seven of the papers are of economic interest, including T. Hazledine on the impact of fiscal independence and tariff changes on living standards in Quebec, L. Auer and K. Mills on the present winners and losers from Canada's present tariff framework, A. Glynn on the tax and expenditure changes in each province that would be necessitated by an independent Quebec, and B. MacDonald on cost of government services after secession. Also covers: disadvantages to the western Canadians of current freight rates, tariffs, and resource taxation (K. Norrie); regional economic disparities (Y. Rabeau and R. Lacroix); and pure decisions and their impact on the location of economic activity (F. Martin). The remaining papers touch on political and constitutional issues. No index.

KENDRICK, DAVID A. AND STOUTJESDIJK, ARDY J. *The planning of industrial investment programs: A methodology.* The Planning Investment Programs Series, vol. 1. A World Bank Research Publication. Baltimore and London: Johns Hopkins University Press for the World Bank, 1978. Pp. xiv, 132. $14.00, cloth; $4.95, paper. *JEL 79–0726*

Develops a project selection model, which permits inclusion of numerous variables as well as decisions about interdependent projects. Describes the model, data requirements, uses of such models, major limitations of the model with indications of certain specifications that can remove some limitations, and methods of solution for project selection models with economies of scale. Also describes use of such models for planning within an economic integration scheme among several countries and for industry regulation. The method employs mixed integer programming, although no previous understanding of mathematical programming is necessary. The author is Professor of Economics, University of Texas. Index.

LARKEY, PATRICK D. *Evaluating public programs: The impact of general revenue sharing on municipal government.* Princeton, N.J.: Princeton University Press, 1979. Pp. xvii, 264. $18.50. *JEL 79-0727*

Analyzes the impact of the General Revenue Sharing (GRS) System on the fiscal behavior of five municipal governments. Approaches problem of determining fiscal effects by establishing "counterfactual states" (*i.e.*, what the fiscal behavior of the municipalities would have been if there had been no GRS funds available. Draws on positive theories of budgetary decision-making process and on account-level data to construct a set of bureaucratic process models, which generate counterfactual hypotheses for each city. Counterfactual patterns are compared with observed outcomes to appraise fiscal effects. Based on a University of Michigan Ph.D. Dissertation, which received the 1976 Outstanding Doctoral Dissertation in Public Finance Award of the National Tax Association—Tax Institute of America. The author is Assistant Professor of Public Policy and Social Sciences at Carnegie-Mellon University. Index.

MCLURE, CHARLES E., JR. *Must corporate income be taxed twice? A report of a conference sponsored by the Fund for Public Policy Research and the Brookings Institution.* Studies of Government Finance: Second Series. Washington, D.C.: Brookings Institution, 1979. Pp. xvii, 262. $11.95, cloth; $4.95, paper. *JEL 79-0728*

Discussion of the integration of personal and corporate income taxes to provide relief from double taxation (taxes on both corporate income and shareholder dividends). Stresses the administrative and technical aspects. Integration may be achieved by treating corporate income tax as withholding tax or by allowing the corporation to deduct part or all of dividends paid from taxes as is done with interest on public debt. Examines both the pros and cons of integration and the systems used in several foreign countries; discusses tax preferences and integration via the partnership method (taxation of shareholders only). Also considers integration in a closed economy and treatment of income crossing national borders. Finds in part that tax preferences and the pure partnership methods both have implementation and administrative problems, and that in the international scene, no matter what policy is adopted, the administrative problems will be particularly complex. Substantial portions of the book constituted a background paper for the conference; the final chapter summarizes the conference discussion. The author is Vice President of the National Bureau of Economic Research and the Allyn R. and Gladys M. Cline Professor of Economics and Finance at Rice University. Index.

PECHMAN, JOSEPH A., ed. *Setting national priorities: The 1980 budget.* Washington, D.C.: Brookings Institution, 1979. Pp. xii, 229. $11.95, cloth; $4.95, paper. *JEL 79-0729*

Tenth in an annual series explaining the budget choices made by the president, examining possible alternatives, and evaluating the budgetary implications of the options. Contains five papers: Joseph A. Pechman presents an overview of the budget and its relation to inflation; Pechman and Robert W. Hartman consider budget trends through 1984; Daniel J. B. Mitchell evaluates the prospects for controlling inflation; Henry Aaron focuses on the major issues in the domestic budget; and Thomas A. Dine, John C. Baker, Robert P. Berman, G. Phillip Hughes, and William P. Mako examine the defense budget. Commentaries by Bruce K. MacLaury on proposals to limit federal spending and by Pechman on tax expenditures are in appendices. The editor is Director of the Brookings Economic Studies program. No index.

U.S. DEPARTMENT OF THE TREASURY. *Blueprints for basic tax reform.* Washington: U.S.G.P.O., 1977. Pp. 230. $2.85, paper. *JEL 79-0730*

Evaluates alternative tax bases, focusing on the goals of equity, efficiency, and simplicity; presents two models for tax reform. The first model—the comprehensive income tax—broadens the base of the income tax, integrates corporate and personal income taxes, taxes capital gains at full rates, and consolidates rates into three brackets ranging from 8 to 38 percent. The second model—the cash flow—is based on consumption; excludes savings from the tax base, although including withdrawal of savings for consumption; and has three rate brackets with rates from 10 to 40 percent. Quantitatively analyzes the effects of the proposed reforms on tax liabilities and considers problems of transition. Bibliography; no index.

U.S. INTERNAL REVENUE SERVICE. *Statistics of income—1976, Individual income tax returns.* Publication no. 79 (4-79). Washington: U.S.G.P.O., 1979. Pp. vi, 269. Paper. *JEL 79-0731*

Presents annual estimates of taxpayers' income, exemptions, deductions, and tax-based on a stratified sample of 84.7 million returns filed for income year 1976. In eight sections: returns filed and sources of income; deductions and exemptions; tax computation and tax rates; taxpayers age 65 or over; state data; explanation of classifications and terms; sources of data; and 1976 forms and instructions. Comprises primarily of tables. Index.

U.S. INTERNAL REVENUE SERVICE. *Supplemental statistics of income—1968–1972: International income and taxes: Foreign tax credit claimed on corporation income tax returns.* Publication no. 479 (1–79) Washington: U.S.G.P.O., 1979. Pp. viii, 184. Paper. *JEL 79–0732*

Supplement to (and derived from) the annual report, *Statistics of Income—Corporation Income Tax Returns.* Presents data on the foreign tax credits and the Western Hemisphere Trade Corporation deduction on foreign operations of U.S. corporations by country for the years 1968, 1969, 1970, and 1972. Includes a detailed discussion of the major tax law changes since 1966 that affect the foreign tax credit statistics. No index.

[VICKERY, WILLIAM S.] *Public and urban economics: Essays in honor of William S. Vickery.* Edited by RONALD E. GRIESON. Lexington; Toronto and London: Heath, Lexington Books, 1976. Pp. ix, 417. $25.95. *JEL 79–0733*

Second printing. See *JEL no. 77–0138* for annotation.

WHITE, ANTHONY G. *Municipal bonding and taxation.* Garland Reference Library of Social Science, vol. 61. New York and London: Garland, 1979. Pp. xiv, 187. $20.00. *JEL 79–0734*

Partially annotated bibliography of 1210 books, journal articles, papers, case law, and other literature bearing on three major topics: municipal bonding and debt, taxation, and miscellaneous revenue sources. Entries date back to the nineteenth century and were selected and annotated on the basis of the author's judgment of their value. Excludes nonanalytical newspaper stories with the exception of an appendix devoted to California's Proposition 13. Sections for each of the major topics include introductory comments on the scope of the topic, a few basic definitions, and the bibliographic entries. Author, subject, city, and journal indices.

WILLIS, J. R. M. AND HARDWICK, P. J. W. *Tax expenditures in the United Kingdom.* London: Heinemann Educational Books for the Institute for Fiscal Studies, 1978. Pp. viii, 107. $11.50, paper. *JEL 79–0735*

Identifies and, where possible, estimates costs of tax expenditures, defined as an exemption or relief from income tax and capital gains tax, "which is not part of the essential structure of the tax in question but has been introduced into the tax code for some extraneous reason." Reviews the concept and general implications of tax expenditure; discusses personal reliefs and social welfare exemptions, savings exemptions, reliefs for owner-occupiers and interest payments, charities, and business reliefs; quantifies for 1973–74 the cost of individual items and aggregate items to the Inland Revenue (showing a high cost in revenue forgone) and estimates the distribution of the tax expenditures among individuals by income class for 1973. Concludes with an argument for a "tax expenditure budget," so that the exempted items may be examined on a regular, careful basis, as are direct public expenditures. The authors are Visiting Professor and Lecturer in Economics and Statistics, respectively, University of Bath. No index.

See also: Book Numbers *JEL 79–0618, 79–0620, 79–0661, 79–0781, 79–0809, 79–0828*

400 International Economics

BANKS, FERDINAND E. *The international economy: A modern approach.* Lexington, Mass.: Heath, Lexington Books, 1979. Pp. xv, 171. $16.95. *JEL 79–0736*

Reference and textbook appropriate for use as supplementary reading in international economics and other disciplines. Provides current analysis of traditional topics as well as of issues concerning oil and nonfuel minerals. Chapters cover: OPEC and oil; elementary price theory for nonfuel minerals; trade in some primary commodities and commodity agreements; international monetary economics; aspects of the Eurocurrency market, multinational firms, and special drawing rights; inflation; international trade in agricultural products; and energy. Warns that at present rates of aggregate investment and growth there is "almost certain" to be high unemployment in the industrial countries by 1984, and if a protracted oil shortage should occur at the same time, the world economy would be "pushed to the edge of ruin." Argues that flexible exchange rates were grossly oversold. Also suggests, given the decline in productivity due to attitudes toward work and the entire system of work and rewards, there is a possibility of a fall in the overall standard of living. Presentation is nonmathematical. The author is Research Fellow and Associate Professor, University of Uppsala, Sweden. Index.

GOMES, LEONARD. *International economic problems.* New York: St. Martin's Press, 1978. Pp. x, 180. $17.95. *JEL 79–0737*

A problem-oriented text designed to supplement introductory theory texts in international economics. The central theme is the "clash of national interests against the constraints imposed on national policy-making by the inexorable trend to-

wards interdependence in the world economy." Specific topics discussed include: issues in the Tokyo Round of multilateral trade negotiations; trade problems of the Third World; East–West trade; the Eurodollar market, short-term capital flows, and currency crises; world monetary arrangements; the impact of multinational corporations; and the technology, human resources, and international competition that underlie current trade problems. The author is Senior Lecturer in Economics at Middlesex Polytechnic, London. Index.

HANSEN, ROGER D. *Beyond the North–South stalemate.* 1980s Project / Council on Foreign Relations. New York; London; Montreal and Paris: McGraw-Hill, 1979. Pp. xv, 329. $12.95. *JEL 79–0738*

Examines the major North–South issues of global politics in the 1970's and outlines the necessary changes for political reform in state behavior in the international system in order to move beyond stalement in the 1980's. Part one is an introduction; part two focuses on the problems and perspectives of the North–South split since the early 1970's; part three examines in detail the evolution of the South and the North as diplomatic entities and the domestic constraints of their capacity to act as cohesive units in the 1980's; part four considers three "modal" sets of northern policy responses to present southern demands, focusing on northern initiatives and cost–benefit calculations; part five sets forth substantive and procedural goals, strategies, and policies for improved North–South relations in the 1980's. Suggests that priority considerations be given to issues such as food production and distribution, energy production and distribution, and population stabilization, and that the Southern Perspective be included among the primary factors in Northern proposals. The author is the Jacob Blaustein Professor of International Organization at the Johns Hopkins School of Advanced International Studies. Selected bibliography; name and subject indexes.

U.S. DEPARTMENT OF STATE. *Countries of the world and their leaders: The U.S. department of state's report on status of the world's nations, combined with its series of background notes portraying contemporary political and economic conditions, governmental policies and personnel, political parties, religion, history, education, press, radio and TV, and other characteristics of each nation. Includes Central Intelligence Agency's list of chiefs of state and cabinet members of foreign governments.* Fifth edition. Detroit: Gale Research, 1979. Pp. 1180. $32.00. *JEL 79–0739*

A dated (in many cases seriously outdated) source book presenting background notes for 168 countries on the people, history, government, political conditions, the economy, foreign relations, relations with the United States, U.S. policy, principal government officials, principal members of U.S. diplomatic missions, and bibliography. Also includes "Status of the World's Nations," a survey of nations, dependencies, and areas of special sovereignty; "Chiefs of State and Cabinet Members of Foreign Governments"; a list of nations, dependencies, and areas of special sovereignty checklists (both alphabetical and chronological) of newly dependent nations; and "International Organizations." No index.

420 TRADE RELATIONS; COMMERICAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

ADAMS, WALTER, ET AL. *Tariffs, quotas and trade: The politics of protectionism.* San Francisco: Institute for Contemporary Studies, 1979. Pp. xiii, 330. $6.95, paper. *JEL 79–0740*

Sixteen essays, by eighteen economists and a political scientist, on the issues of free trade, protectionism, and the domestic economic and political pressures that shape trade policies. Comprised of five parts, reflects a strong consensus in favor of liberalizing trade; part one reviews the theories and practices of international trade; part two discusses institutions and problems; part three considers political dimensions; part four presents case studies; and part five offers the conclusions (by Richard James Sweeney) that "many of the United States' international problems are due to domestic inflation, which will subside only with sound monetary and fiscal policies . . . [which] alone can stabilize the U.S. economy, the dollar, and ultimately the international economy." Until then, greater progress toward freer trade cannot be expected. Index.

BEHRMAN, JERE R. *International commodity agreements: An evaluation of the UNCTAD integrated commodity programme.* ODC, NIEO Series, Monograph, no. 9. Washington, D.C.: Overseas Development Council, 1977. Pp. xii, 96. $5.00, paper. *JEL 79–0741*

Examines a proposed UNCTAD program that recommends the use of international buffer stocks and integrated financing to stabilize prices. Reviews theoretical issues that support private markets and then simulates both the operation of a buffer stock designed to help prices from fluctuating outside a 15 percent range in either direction of the trend for the market determined price over the last 25 years and the impact of a buffer plan, which targets prices 2 percent higher than the historical trend. Based on movements of eight "core commodities" and five primary products for

1963–72, the author finds that: (1) the creation of buffer stocks helps both the producing country and especially the consuming country; and (2) stocks created to maintain prices within a band of higher than secular growth rates shifts the balance of benefits from the developed to the developing country. The author is Chairperson of the Economics Department at the University of Pennsylvania. Bibliography; no index.

BLACKHURST, RICHARD; MARIAN, NICOLAS AND TUMLIR, JAN. *Adjustment, trade and growth in developed and developing countries.* Gatt Studies in International Trade, no. 6. Geneva: General Agreement on Tariffs and Trade, 1978. Pp. 98. \$8.00, paper. *JEL 79–0742*

Consisting of two chapters and a conclusion, this monograph focuses on specific obstacles in the area of adjustment and trade. Surveys long-term and recent changes in the growth and trade of developing countries and examines selected problems affecting the trade structure and economic activity in developed countries. Assumes that "protectionism is a short-run and ultimately self-defeating alternative to the needed adjustment" and that "adjustment to change is a necessary condition of economic growth." Analyzes situations in developed countries related to (1) inflation and investment, (2) uncertainty in international economic relations, (3) deterioration of the allocative mechanism, and (4) labor market developments. A primary conclusion is that obstacles to adjustment "turn out in the end to be essentially political." Appendices give statistical tables and notes on definitions and data sources. No index.

COLLESTER, J. BRYAN. *The European communities: A guide to information sources.* International Relations Information Guide Series, vol. 9. Gale Information Guide Library. Detroit: Gale Research, 1979. Pp. xxxii, 265. \$22.00. *JEL 79–0743*

Annotated bibliography of 1,426 books, Ph.D. dissertations, and other materials in English (with a few exceptions) on the political aspects of European integration, and in particular on the European economic community. Excludes official reports and magazine and journal articles (except where an entire issue of a journal is devoted to the topic). Materials organized into eight major classifications (with subcategories): theoretical and conceptual studies of integration and cooperation; general, historical, and institutional studies; background, policies, and institutions in the European Communities; member-state relations; external relations; European security; reference sources; and a guide to official publications. Includes a guide to relevant periodicals as well as a section devoted to recommended holdings for small or private libraries. The author is Associate Professor of Political Science at Principia College, Elsah, Illinois. Author and subject indices.

LEVCIK, FRIEDRICH AND STANKOVSKY, JAN. *Industrial cooperation between East and West.* Translated by MICHAEL VALE. White Plains, N.Y.: Sharpe, [1977] 1979. Pp. xii, 287. \$25.00. *JEL 79–0744*

Translation from the German of *Industrielle Kooperation zwischen Ost und West,* a 1977 study of the motivations, goals, scope, types, and legal and institutional frameworks of the commerce and politics of East–West cooperation. Examines the possibilities and limits to joint ventures; the relationship of East–West industrial cooperation and the economic policy of the participating countries; intergovernmental cooperation agreements; the impact of the business cycle on cooperation; and the practical experience of East–West cooperation. Finds that East–West industrial cooperation has grown steadily over recent years, but concludes that future cooperation depends "to a quite decisive degree on the growth trends and stability of the world market" and on *détente.* The authors are Director of the *Institut für Internationale Wirtschaftsvergleiche,* Vienna, and a staff member of *Österreichischen Institutes für Wirtschaftsforschung,* respectively. Published simultaneously as Vol. 14, no. 1–2, of *Soviet and Eastern European Foreign Trade.* Bibliography; no index.

OKYAR, OSMAN AND AKTAN, OKAN H., eds. *Economic relations between Turkey and the EEC: Proceedings of a seminar held in Antalya on October 11–14, 1976.* Ankara: Hacettepe Institute for Economic and Social Research on Turkey and the Middle East, 1976. Pp. xiii, 488. 150 TL, paper. *JEL 79–0745*

Sixteen previously unpublished papers by economists and government officials plus related discussions from a seminar sponsored by the Institute for Economic and Social Research on Turkey and the Middle East of Hacettepe University, the Institute of Public Finance of Ankara University, and the Institute of Economic Development of Istanbul University. Following four papers each on an overall evaluation of relations and the issue of trade and balance of payments, there are two papers on industry, three on agriculture, and three on factor movements and technology transfer. The editors are in the Department of Economics, Hacettepe University. No index.

SHLAIM, AVI AND YANNOPOULOS, G. N., eds. *The EEC and Eastern Europe.* New York; London and

Melbourne: Cambridge University Press, 1978. Pp. 251. $35.00. *JEL 79-0746*

Nine previously unpublished papers, most from a conference organized by the Graduate School of Contemporary European Studies, University of Reading, 1975, which examine trade and financial transactions between the European Economic Communities (EEC) and the socialist countries of the Council of Mutual Economic Assistance (CMEA). Contributors include: Peter Marsh, Peter Wiles and Alan Smith, John Pinder, Philip Hanson, Richard Portes, J. Wilczynski, Friedemann Müller, Max Baumer and Hanns-Dieter Jacobsen, and the editors, Lecturer in Politics and Lecturer in Economics, University of Reading, respectively. Index.

See also: Book Numbers *JEL 79-0752, 79-0762, 79-0782, 79-0837*

430 Balance of Payments; International Finance

Ainley, E. M. *The IMF: Past, present and future.* Bangor Occasional Papers in Economics, no. 15. Cardiff, Wales: University of Wales Press, 1979. Pp. x, 98. £3.50, paper. *JEL 79-0747*

Examines the need for a stronger IMF and possible ways in which it may be strengthened. Outlines the structure and working of the IMF, its shortcomings from 1945-71, the failure of the reforms of 1972-76, and prospective developments in international adjustments up to 1982. Examines IMF influence on members' future adjustment policies, via consultation, sanctions, exchange rate supervision, and lending conditions; current financing efforts; and two alternative proposals for improving the effectiveness of the IMF—establishment of a new lending institution to aid the IMF and closer links between the IMF and commercial banks. Finds that: (1) the chances of a new lending institution are slim; (2) the growing practice among commercial banks to link loans informally to IMF agreements; (3) the bases for extending IMF influence already exist; and (4) despite the IMF's track record and the serious implications for the medium term with respect to international adjustments, "it seems unlikely at present that individual governments will have the vision to allow the IMF to fulfill its potential." No index.

Beenstock, Michael. *The foreign exchanges: Theory, modelling and policy.* Foreword by John Williamson. New York: St. Martin's Press, 1978. Pp. x, 163. $23.50. *JEL 79-0748*

Examines the theoretical and empirical determinants of the capital account in the balance of payments, focusing on such items as the substitutability of financial assets of different currency denominations; exchange rate uncertainty and the role of expectations; and the role of forward exchange rates. The study is divided into two parts, Part A, concentrating on the balance of payments as a whole, and Part B, discussing a series of empirical issues regarding the structure of forward markets and the processes of international financial substitution including econometric analyses of forward exchange markets and capital markets, the term structure of forward exchange rates, and the Eurodollar market. Each part includes a chapter summarizing policy issues. John Williamson, in his foreword, suggests that both monetarists and "Keynesians" "can endorse the synthesis represented by the sort of structural model constructed and examined in . . . this book." The book is based on the author's experience as an economic advisor, Overseas Finance Section of the British Treasury, 1973-76, and is a development of his Ph.D. dissertation, University of London, 1976. The author is an economist at the World Bank, Washington, D.C. Bibliography; index.

Gold, Joseph. *Legal and institutional aspects of the international monetary system: Selected essays.* Edited by Jane B. Evensen and Jai Keun Oh. Washington, D.C.: International Monetary Fund, 1979. Pp. xx, 633. $17.50. *JEL 79-0749*

Fourteen previously published essays, newly edited to reflect the terminology of the Second Amendment to the Fund's Articles of Agreement. Includes an introductory essay and notes by the author at the conclusion of each essay describing the impact of the Second Amendment on each topic. Central themes are "the desirability of an international monetary system regulated by international law," change in the international monetary system promoted by legal means, and flexibility to adapt to changing conditions, to crises, and to requirements of daily operations. The author is General Counsel and Director of the Legal Department of the Fund. Bibliography; five indices refer to provisions of Articles of Agreement, by-laws and rules, decisions, cases, and subjects.

Howick, Cristina and Key, Tony. *The local economy of Tower Hamlets: An inner city profile.* Research Series no. 26. London: Centre for Environmental Studies, 1978. Pp. 88. £1.75, paper. *JEL 79-0750*

Examination of the economic problems facing Tower Hamlets—an inner London borough. Placing the issues in the general context of the general theories of inner city problems, the authors look at local industry and commuter flow, population trends and movements, housing, and unemployment. Finds in part that the decline in employ-

ment in the recent past is the result of firms closing rather than plant movement. No index.

JACOBSSON, ERIN E. *A life for sound money: Per Jacobsson: His biography.* Oxford: Oxford University Press, Clarendon Press, 1979. Pp. xxii, 428. $41.00. *JEL 79-0751*

Biography drawn from the diary and correspondence of Per Jacobsson, noted monetary economist, head of the Bank for International Settlements, and Managing Director of the International Monetary Fund for the period 1956–63. Written by Jacobsson's daughter, also an economist, the material is in six parts: personal background; as an international civil servant; the Bank for International Settlements; the Second World War era; sound money on an international level; and the IMF years. Notes that one of Jacobsson's greatest achievements was "the cohesion he was able to give to the efforts of most countries to solve their monetary, financial, and even political problems on parallel lines." People, country, and general indices.

KALDOR, NICHOLAS [Lord]. *Further essays on applied economics.* Collected Economic Essays, vol. 6. New York: Holmes & Meier, 1978. Pp. xxix, 244. $21.75. *JEL 79-0752*

Volume six of Kaldor's eight-volume collected essays series, includes fifteen previously published papers written from 1964 to 1977 on applied economics. In three parts: money and international equilibrium; aspects of the problem of industrialization and economic development; and the "Great Debate" on British membership into the Common Market, which includes a postscript lecture on free trade written in 1977. [See *JEL no. 79-0622* for annotation of volume 5.] Author index.

KREININ, MORDECHAI E. AND OFFICER, LAWRENCE H. *The monetary approach to the balance of payments: A survey.* Princeton Studies in International Finance, no. 43. Princeton: Princeton University, Department of Economics, International Finance Section, 1978. Pp. 87. $2.50, paper. *JEL 79-0753*

Survey of the literature on monetary approach in balance of payments adjustment processes written for the general economist. Discusses monetary adjustment under fixed and floating exchange rates, the policy implications, a brief doctrinal history of the monetary approach, and devotes about one-half the monograph to a survey of empirical tests of the theory. Finds that empirical testing is inconclusive; suggests that this may be because: (1) the monetary relationships under fixed exchange rates are hypothesized to hold in the "long run," and the time unit used may have been too short; (2) this approach may be subject to the same difficulties as tests of domestic monetarism; (3) a variety of statistical problems may affect the testing; and (4) the theory has only been tested in isolation and is not pitted against alternative methods. Concludes in general that the monetarists "may have gone too far in emphasizing monetary variables to the virtual exclusion of everything else." The authors are Professors of Economics at Michigan State University. No index.

MILLER, ROBERT AND WOOD, JOHN B. *Exchange control for ever?* IEA Research Monographs, no. 33. London: Institute of Economic Affairs; distributed by Transatlantic Arts, Levittown, N.Y., 1979. Pp. 78. $5.50, paper. *JEL 79-0754*

Examines the origins and developments in British exchange control since 1939. Discusses the effects of continuing exchange control on investment, employment, the supply and demand of foreign exchange, and other economic activities and the advantages and disadvantages of continued control. Concludes that control ought to be abolished, since the objectives of such a policy are extremely ambiguous and the record has shown the inability of controls to protect the economy from a balance-of-payments crisis or from a steady and substantial decline in the exchange rate. The authors are with the IEA. Glossary; no index.

See also: Book Numbers *JEL 79-0631, 79-0693, 79-0711, 79-0714*

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

FAUNDEZ, JULIO AND PICCIOTTO, SOL. *The nationalisation of multinationals in peripheral economies.* New York: Holmes & Meier; London: Macmillan Press, 1978. Pp. ix, 238. $27.50. *JEL 79-0755*

Seven previously unpublished papers by lawyers and economists, consisting of a general introduction by the editors and six case studies, on the national multinational relationship in the context of nationalization in peripheral economies. Reginald H. Green looks at the relationship of the technical to the political in the negotiation process after the decision to nationalize in the Tanzanian case; Julio Faundez discusses the domestic political debates preceeding formal nationalization, focusing on Chilean nationalization of copper; Victor Rabinowitz examines Cuban nationalizations in the United States courts; Carlos Fortin explores the post-nationalization litigation in the European courts for the case of Chilean copper; Petter Nore discusses oil nationalization in Norway; and Sol

Picciotto considers the relation between the state and the individual economic unit (the firm) in a historical and theoretical perspective. The editors are Lecturers in Law, University of Warwick. Index.

KAPOOR, ASHOK, ed. *International business in the Middle East: Case studies.* Westview Special Studies in International Economics and Business. Boulder: Westview Press, 1979. Pp. xvii, 134. $17.00. *JEL 79-0756*

One general paper and seven case studies of experiences of foreign companies in developing business relationships in the Middle East. Eugene Bird discusses the need to understand the Middle East negotiations, followed by case studies of: Bangor Engineering Ltd., Aram Construction Company, and Automotive Parts, Inc. (all by Ashok Kapoor); Arab Patash Company (Ibrahim F. I. Shihata); Color Plant, Inc. (Gary E. Lloyd); International Resources Corporation (John Seifert); and Kuwait's experience in the United States (William Stoever). Papers illustrate several oversights by companies in understanding the Middle East business environment, including inadequate knowledge of the host country, insufficient allocation of time to projects by senior management, and inadequate recognition of the role, areas, and scope of assistance sought by local affiliates. Also notes importance for host country officials of recognizing the constraints on foreign companies. The editor is Professor of Marketing and International Business at New York University. Bibliography; no index.

LAMONT, DOUGLAS F. *Foreign state enterprises: A threat to American business.* New York: Basic Books, 1979. Pp. xv, 272. $11.95. *JEL 79-0757*

Studies the expanding role of government-owned industrial firms as competitive corporations throughout the developed world, paying special attention to the growth of American subsidiaries owned by foreign state enterprises. Sees a trend of appropriation by state enterprises of functions previously reserved to privately-owned firms, and addresses the following issue: "All foreign state enterprise investors have worked with their home governments to restrict the freedom of our firms to invest in their home countries. Yet we unilaterally allow them to invest here without restriction." Focuses on 59 state enterprises using the author's State Enterprise Data Bank; his Giant Industrial State Enterprise Methodology, an analytical methodology for comparing the performance of state enterprises and private firms; and 1957-76 financial data from "The Fortune Directory of the Largest Industrial Corporations Outside the United States." Argues for federal government intervention to insure reciprocity, *e.g.*, to allow U.S. firms to invest in North Sea oil or Brazilian iron ore when state enterprises invest in this country. The author is Dean of the Walter E. Heller College of Business, Roosevelt University, Chicago. Index.

MCLAUGHLIN, MARTIN M., ET AL. *The United States and world development: Agenda 1979.* New York; London; Sydney and Toronto: Holt, Rinehart and Winston; Praeger; for the Overseas Development Council, 1979. Pp. 268. $5.95, paper. *JEL 79-0758*

Five essays on the world economic system and the requirements for international cooperation, particularly between the developed and the developing countries, in the 1980's. Specific topics include an overview essay on the United States and world development in 1979 and discussions of (1) the major global forces that presently bear on the North-South relationship; (2) the impact of the economic well-being of developing countries on the prosperity of industrialized countries; (3) the role of the United States, and particularly the U.S. Congress, in furthering basic needs and human rights in developing countries; and (4) the southern view of the present state of the North-South dialogue. Authors are Theodore M. Hesburgh, James P. Grant, John W. Sewell, Mahbub ul Haq, and Martin M. McLaughlin who is also the project director. Statistical annexes; no index.

SKULLY, MICHAEL T., ed. *A multinational look at the transnational corporation: An international collection of academic and corporate views on the future of transnational enterprise.* Sydney: Dryden Press Australia; Surrey and McLean, Va.: Australiana Publications, 1978. Pp. iv, 278. *JEL 79-0759*

Twenty-six papers (seven previously published) by economists from various countries that present different points of view on transnational corporations (TNC's) and their future. Includes seven papers each on TNC's in Europe and Asia, three on Africa, four on Australia, and five on the Americas. Usable as s supplemental text in courses on international business. The editor is at the University of New South Wales in Australia. No index.

SMITH, GORDON W. *The external debt prospects of the non-oil-exporting developing countries: An econometric analysis.* Overseas Development Council Monograph, no. 10. NIEO Series. Washington, D.C.: Overseas Development Council, 1977. Pp. xi, 49. $4.00, paper. *JEL 79-0760*

Includes an appraisal of appropriate policy options. Estimates a two-variable Frank-Cline dis-

criminant function to predict which of a sample of 25 countries are likely to reschedule their external debt in 1977–78. Variables included are the debt service ratio and the ratio of amortization to outstanding debt; data on the 25 countries cover the years 1970, 1976, and 1977. Also uses a Feder-Just logit model based on eight indicators to estimate the probability that a given country will reschedule or default during a given year. Concludes that the debt problem, in the aggregate and individually, is not as serious as is commonly believed and argues for the adoption of selective measures for dealing with rescheduling and defaults as opposed to generalized debt relief. The author is Associate Professor of Economics at Rice University. No index.

STEVENS, CHRISTOPHER. *Food aid and the developing world: Four African case studies.* New York: St. Martin's Press, 1979. Pp. 224. $22.50.
JEL 79-0761

Examines the impact of supplying and receiving food aid on a continuing basis as a means of development assistance to four widely differing African countries. In three sections: section one introduces background data on donors (U.S., EEC, and Canada) and recipients—Botswana, Lesotho, Upper Volta, and Tunisia; section two outlines the uses of food aid for cash, nutrition, and wages in the cases studied; section three explores the direct and indirect effects of food aid on nutrition, consumer prices, and agricultural production in the recipient countries. Argues that the view that food aid is not an inherently unsatisfactory form of development assistance but depends on the particular circumstances of the donor and recipient. Concludes that "food aid is unlikely to have a negative effect and may well have a positive impact if supplied in good time and in the form of locally acceptable commodities . . . as part of a broader package of measures designed to assist a poverty-oriented development strategy"; under the opposite circumstances, the impact is likely to be negative. The author is Research Officer at the Overseas Development Institute. Bibliography; index.

WINCHESTER, MARK B., ed. *The international essays for business decision makers.* Volume 3. Dallas: American Management Associations, AMACOM, for the Center for International Business, 1978. Pp. x, 270. $17.95, cloth; $8.95, paper.
JEL 79-0762

Thirty-four previously unpublished addresses and essays on a wide variety of topics of special interest to decision makers and policy formulators involved in world trade and investment. A sample of topics includes: protectionism; international lending; development; technology transfer; energy policy; doing business in Cuba, Eastern Europe, and Kuwait; and benefit programs for third country nationals. No index.

WIONCZEK, MIGUEL S., ed. *LDC external debt and the world economy.* México, D.F.: El Colegio de México and Center for Economic and Social Studies of the Third World, 1978. Pp. xiii, 477. Paper.
JEL 79-0763

Fifteen previously unpublished papers on North-South financial relations. Papers were originally presented at a private international conference in Mexico City in October 1977 sponsored by El Colegio de México and the Center for Economic and Social Studies of the Third World. Includes final report from the meeting. Consensus was that LDC debt should be handled in the general framework of international economic relations and not separated from such issues as trade policies, development assistance, *etc.*; that this external debt is the joint responsibility of the borrower and lender. The editor is Senior Research Associate at El Colegio de México. Selected bibliography; no index.

See also: Book Number *JEL 79-0775*

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

BECKMANN, MARTIN J. *Rank in organizations.* Lecture Notes in Economics and Mathematical Systems, no. 161. Berlin and New York: Springer-Verlag, 1978. Pp. viii, 164. $9.80, paper.
JEL 79-0764

Examines the allocation and utilization of personnel in organizations from the perspective of mathematical economics. The first section treats supervision and control, bounds to the span of control, and returns to scale in administration, paying particular attention to informational implications of personnel allocation. The second section addresses the issues of career mobility, the probabilities of promotion, salary competition, and the implications of salary structure for employee income distribution. The last section introduces the concept of a managerial production function and considers aspects of long-run organizational change. Much of this section has previously appeared in "Management Production Functions and the Theory of the Firm," (*Journal of Economic Theory,* vol. 14, no. 1, February 1977, pp. 1–18). The author is Professor of Economics at Brown University. Name and subject indices.

CASE, JAMES H. *Economics and the competitive process.* Studies in Game Theory and Mathematical Economics. New York: New York University Press, 1979. Pp. xiii, 295. $29.50. *JEL 79-0765*

Explores competitive activity from a game theory perspective. First, examines Cournot's noncooperative theory and von Neumann and Morgenstern's cooperative theory, and then develops his noncooperative game theory. Part one deals with ordinary games where several players choose from a number of permitted alternative actions, with rewards depending on opponents' actions as well as their own. Includes auctions, inventory decisions, investment games, customer behavior, and advertising games. Part two deals with differential games where information is received and acted upon continually as the game progresses. Some of the material has been used by the author in a game theory course, and a number of exercises are included in most chapters. Index.

HESSEN, ROBERT. *In defense of the corporation.* Hoover Institution Publication no. 207. Stanford: Stanford University, Hoover Institution Press, 1979. Pp. xviii, 133. $7.95. *JEL 79-0766*

Presents a defense of the legitimacy of the corporate form of organization particularly in response to legislation submitted by Ralph Nader and others proposing federal chartering of corporations. Addressing the anticorporate school's questions of who owns the corporation, who governs it, and by what principles does it operate, the author argues that "shareholders own it, that the officers make major decisions without consulting the owners, and that this relationship is unobjectionable because it rests on the principles of choice, consent, and contractual authorization." Also discusses the argument that the corporation is a "fictitious legal person" and owes its existence to the permission of the state, which the author denies on the grounds that corporations are created and sustained by an exercise of individual rights of freedom of association and freedom of contract. Lastly, in relation to the attacks on the "legal person" status of the corporation, Hessen feels that the corporation is an association of individuals entitled to the protection given individuals and other organizations. The author is a Research Fellow at the Hoover Institution and teaches at the Graduate School of Business, Stanford University. Index.

OWEN, TREVOR. *Making organisations work.* International Series on the Quality of Working Life, vol. 7. Leiden; Boston and London: Martinus Nijhoff Social Sciences Division; distributed in North America by Kluwer Boston, Hingham, Mass., 1978. Pp. x, 159. Dfl. 22.25, paper. *JEL 79-0767*

Discusses the "management energy crisis" of modern large industrial enterprises—the ineffectiveness of current methods of directing technical and human resources in industry toward the production of wealth for the community. Places industry in a social perspective, examines the sources and uses of management energy within the organization, outlines a view of the problems faced by managers in large industrial organizations, and proposes a plan for conservation of management energy. The plan suggests methods of adapting management practices to problems posed by the instability of the modern industrial environment as well as by the breakdown of hierarchical authority within contemporary industrial organizations. Methods broadly consist of means of developing a shared commitment to a task on the part of managers and employees, as well as the need for political and tactical skills by managers. The author is Personnel Manager of Imperial Chemical Industries, Ltd., U.K. No index.

PAPPAS, JAMES L. AND BRIGHAM, EUGENE F. *Managerial economics.* Third Edition. Hinsdale, Ill.: Holt, Rinehart and Winston, Dryden Press, [1972, 1976] 1979. Pp. xiv, 656. $15.95. *JEL 79-0768*

Text focusing on the salient microeconomic topics, including demand analysis, production and cost theory, market structures, investment analysis, and regulation and antitrust policy. Develops the basics of optimization procedures under risk or uncertainty. Constructs basic valuation model of the firm, depicted as a cohesive, unified organization, and relates topics on the firm to this model. Chapters supplemented by problems, questions, and lists of references. Includes material on the time value of money, forecasting, and factor tables in the appendices. Changes in this edition are not indicated, but reference material appears to have been brought up to date. The authors are at the University of Wisconsin and the University of Florida, respectively. Name and subject indices.

ROSENKRANZ, FRIEDRICH. *An introduction to corporate modeling.* Durham, N.C.: Duke University Press, 1979. Pp. xiii, 498. $18.75. *JEL 79-0769*

Provides a "conceptual framework for the construction, verification and implementation of corporate simulation and planning models." Primarily applications-oriented, although contains discussion and reference to theoretical corporate modelling work. Specific topics include treatments of: dynamic, static, stochastic, and deterministic models; the relationship between corporate simulation

models and the planning process; the model-building methodology; graph and signal-flow diagrams; the role of optimization; and case studies of financial, marketing, production, and manpower planning models. Techniques and models developed, used, and tested at the Swiss chemical and pharmaceutical firm of CIBA-GEIGY. The author is *Privatdozent* at the *Betriebswirtschaftliches Institut* of the University of Basel, Switzerland. Index.

See also: Book Numbers *JEL 79-0617, 79-0778, 79-0787*

520 Business Finance and Investment

DeGarmo, E. Paul; Canada, John R. and Sullivan, William G. *Engineering economy.* Sixth edition. New York: Macmillan; London: Collier Macmillan, [1942 . . . 1973] 1979. Pp. xv, 576. $18.95. *JEL 79-0770*

Text for undergraduate engineering students; also useful for students in business-related curricula concerned with evaluation of alternative uses of capital in engineering and business projects by widely used, nonmathematically sophisticated methods. In three parts: tools for engineering economic analysis; applications of the analysis; and methods for minimizing resource requirements. Assumes some facility with linear algebra; differential calculus and probability are used in several sections. This edition includes new subject matter on costs and economic use of capital, a new sequence of chapters, and completely revised chapter exercises. Glossary and related statistical tables in appendices. Instructor's manual available. E. P. DeGarmo is Professor of Industrial Engineering and Mechanical Engineering Emeritus, University of California, Berkeley; J. R. Canada is Professor of Industrial Engineering, North Carolina State University at Raleigh; and W. G. Sullivan is Associate Professor of Industrial Engineering, University of Tennessee, Knoxville. Index.

Fruhan, William E., Jr. *Financial strategy: Studies in the creation, transfer, and destruction of shareholder value.* Homewood, Ill.: Irwin; Georgetown, Ontario: Irwin-Dorsey, 1979. Pp. ix, 301. $15.95. *JEL 79-0771*

Explores the factors influencing the valuation of common stock; discusses how shareholder values can be created, transferred, or destroyed; and, in the major portion of the book, focuses on specific examples of value enhancement, including Avon Products, Inc.; General Electric; A&P; oomputer leasing; and others. The last part considers the macro effects of value creation. Includes related statistical information for the particular examples. The author is at the Graduate School of Business Administration, Harvard University. Bibliography; index.

Seitz, Neil. *Financial analysis: A programmed approach.* Second edition. Reston, Va.: Prentice-Hall, Reston, [1976] 1979. Pp. xi, 276. $8.95, paper. *JEL 79-0772*

Programmed textbook on the principles of financial data analysis and practical financial decision-making. Addressed primarily to financial managers of companies involved in the provision of nonfinancial goods and services. Topics covered include the analysis of financial statements, leverage and break-even analysis, financial planning and value of money, capital budgeting, and concepts of value and of capital costs. Provides answers to fill-in-the-blank questions, case studies, solved problems, and problem sets following each chapter. No index.

See also: Book Number *JEL 79-0710*

530 Marketing

Webster, Frederick E., Jr. *Industrial marketing strategy.* Ronald Series on Marketing Management. New York; Chichester, England; and Toronto: Wiley, Ronald Press, 1979. Pp. xvi, 279. $18.95. *JEL 79-0773*

Text written for managers and for industrial marketing courses, exploring strategic problems of marketing goods and services to industrial and instititutional customers. Topics covered include purchasing management and buyer behavior, buyer-seller relationships, market segmentation, product strategy and new product development, market development for new products, pricing strategies, distribution, sales force management, and advertising. Assumes familiarity with basics of marketing, accounting, and economic analysis. The author is Associate Dean and Professor of Business Administration at the Amos Tuck School of Business Administration, Dartmouth College. Index.

540 Accounting

Gambino, Anthony J. *Planning and control in higher education.* New York: National Association of Accountants, 1979. Pp. x, 115. Paper. *JEL 79-0774*

Presents the findings of a study examining the current and prospective application of management accounting techniques in colleges and universities. Research based on interviews with college business officers, mail questionnaires to academic administrators and state-level planners, and a literature search. In addition to analysis of the questionnaire on costing, budgeting, and out-

put measures, includes sections devoted to costing concepts, planning and budgeting in higher education, PPBS and zero-base budgeting, and accountability in higher education, examining the concept of output measures. The author is a researcher with the National Association of Accountants. Bibliography; no index.

MILLER, ELWOOD L. *Accounting problems in multinational enterprises.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xiii, 288. $19.95. *JEL 79-0775*

Text for a course in accounting for multinational enterprises. Discusses the evolution of such firms, host relationships, socioeconomic development, business ethics, the accounting concerns of inflation, price-level accounting, currency exchange rates, foreign-currency translation (conversion), transfer prices, performance evaluations, information systems, consolidated financial reporting, segmented reporting, taxation, and future international accounting. Text was developed in conjunction with the author's course in the area. The author is Associate Professor of Accounting, Saint Louis University. Glossary; selected bibliography; index.

WAGNER, CHARLES R. *The CPA and computer fraud.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xvii, 156. $15.95. *JEL 79-0776*

Study of the computer fraud and the determination of the CPA's responsibility for its prevention and detection. Compares the manual and computer accounting systems; examines the information about the extent and types of computer fraud, finding it fragmentary; and discusses the responsibility for fraud, whether by internal auditors or the CPA. Concludes that: (1) incidence of fraud appears to be rising; (2) internal control systems are inadequate; (3) the CPA is not accepting the degree of responsibility for prevention and detection that he should. The author is Associate Professor of Accounting, Gustavus Adolphus College, St. Peter, Minnesota. Bibliography; index.

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

AMERICAN ENTERPRISE INSTITUTE FOR PUBLIC POLICY RESEARCH. *Regulation and regulatory reform: A survey of proposals of the 95th Congress.* American Enterprise Institute Special Analysis. Washington, D.C.: Author, 1978. Pp. 59. $2.00, paper. *JEL 79-0777*

Analyzes major proposals for regulatory reform, both procedural and substantive, advanced in the 95th Congress. Procedural reforms organized by those supported by business groups and those supported mainly by consumer groups; substantive reforms organized by industry. Appendices list regulatory bills that passed and failed to pass Congress and also additional bills with regulatory implications. No index.

GOLDSCHMID, HARVEY J., ed. *Business disclosure: Government's need to know.* Regulation of American Business and Industry Series. Columbia University Center for Law and Economic Studies. New York; London; Paris and Tokyo: McGraw-Hill, 1979. Pp. ix, 451. $29.95. *JEL 79-0778*

Eleven previously unpublished papers by scholars in various information fields, originally presented at a conference sponsored by Columbia University's Center for Law and Economic Studies, held at Airlie House, Virginia on 5 and 6 November 1976. Topics discussed include: segmented financial reporting; uniform reporting with respect to corporate ownership; information needed for noncompulsory national planning; the limits of numerical formulations and statistics; disclosure by businesses to consumers; and confidentiality claims. Editor's notes precede each section. The editor is Professor of Law, Columbia University School of Law. Index.

GORECKI, PAUL K. AND STANBURY, W. T., eds. *Perspectives on the Royal Commission on Corporate Concentration.* Scarborough, Ont.: Butterworth for the Institute for Research on Public Policy, Montreal, 1979. Pp. xxii, 308. Paper. *JEL 79-0779*

Twenty-one previously unpublished papers commenting on the May 1978 Canadian Royal Commission on Corporate Concentration *Report* [see *JEL no. 78-1088*] and the accompaning studies. The first six papers discuss the *Report* in general, written from several different perspectives: industrial, independent business, American, labor, political, and the view from Quebec. Remaining papers focus on specific topics of the *Report*, including economics of scale, conglomerates, industrial organization, foreign investment, corporate information, working conditions, regulation, and others. Also includes a 12-page review of the major themes of the *Report*, in English and French. P. K. Gorecki is with the Research Branch of the Bureau of Competition Policy, Ottawa, and W. T. Stanbury is Director, Regulation and Government Intervention Program, Institute for Research on Public Policy, Montreal. No index.

HAY, DONALD A. AND MORRIS, DEREK J. *Industrial economics: Theory and evidence.* London; New York; Melbourne and Toronto: Oxford University Press, 1979. Pp. x, 649. $13.00, paper.
JEL 79-0780

Text for an advanced undergraduate or graduate level course in industrial economics. After an overview of the topic, the text is in three parts: analysis of the markets, pricing behavior, investment, and market structure; the behavior of firms and their growth; and the issues related to public policy. Prerequisites: a course in the theory of the firm and an ability to read regression equations. The authors are at Jesus College and Oriel College, University of Oxford, respectively. Author and subject indices.

MAZMANIAN, DANIEL A. AND NIENABER, JEANNE. *Can organizations change? Environmental protection, citizen participation, and the Corps of Engineers.* Washington, D.C.: Brookings Institution, 1979. Pp. x, 220. $11.95, cloth; $4.95, paper.
JEL 79-0781

Examines the nature of the Corps of Engineers' response to the 1969 National Environmental Policy Act requiring federal agencies to consider the environmental consequences of their activities and to provide for greater citizen involvement in decision-making. Gauges the extent of change in the Corps' objectives, internal structure, programs, decision-making, and nature of the service provided by focusing on five case studies. Finds that the Corps moved swiftly and successfully to achieve a degree of organizational change and to accommodate itself to a changing social and political environment. The authors are Associate Professor of Government at Pomona College and Assistant Professor of Political Science at the University of Arizona, respectively. Index.

MILLER, JAMES C., III, AND YANDLE, BRUCE, eds. *Benefit-cost analyses of social regulation: Case studies from the Council on Wage and Price Stability.* American Enterprise Institute Studies in Government Regulation, no. 231. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 171. $4.75, paper.
JEL 79-0782

Eleven benefit-cost case studies selected from work done by economists on the Council on Wage and Price Stability, in Council-prepared statements appraising the inflationary impact of newly proposed federal regulation. Focuses on "the new social regulation," particularly consumer and worker health regulation; product safety regulation; and energy, environmental, and world trade regulation. Case studies attempt to evaluate the inflationary costs of these programs and to incorporate them into a broad benefit-cost framework. Points out in the introduction that available estimates of regulatory costs to the private sector may exceed $100 billion annually. The editors are Co-Director of the Center for the Study of Government Regulation at the American Enterprise Institute and Professor of Economics at Clemson University, respectively. No index.

SHEPHERD, WILLIAM G., ed. *Public policies toward business: Readings and cases.* Revised edition. The Irwin Series in Economics. Homewood, Ill.: Irwin; Georgetown, Ont.: Irwin-Dorsey, [1975] 1979. Pp. xii, 404. $9.95, paper. *JEL 79-0783*

Revised and expanded edition of a collection first published in 1975 [see *JEL no. 76-0191*]. The readings and legal decisions in landmark cases focus on antitrust policy, regulation, and public enterprise. A companion to *Public Policies Toward Business,* Sixth edition, by William G. Shepherd and Clair Wilcox [see *JEL no. 79-0784*]. The editor is Professor of Economics at the University of Michigan. No index.

SHEPHERD, WILLIAM G. AND WILCOX, CLAIR. *Public policies toward business.* Sixth edition. The Irwin Series in Economics. Homewood, Ill.: Irwin; Georgetown, Ont.: Irwin-Dorsey, [1955 . . . 1975] 1979. Pp. xvii, 601. $17.95. *JEL 79-0784*

Text for a one-semester, upper level college course on the economics of industrial policy; also useful for courses in Law and Business. In five parts: concepts and tools; policies related to competition promotion; utility regulation; public enterprise; and "special cases." This edition has been expanded with respect to coverage but reduced in overall length. Includes new material on regulation of utilities, antitrust, and public enterprise. Also contains 300 review questions at the end of the chapters; answers provided. W. G. Shepherd is Professor of Economics, the University of Michigan. [See *JEL no. 76-0196* for annotation of previous edition (the late Clair Wilcox and Shepherd).] Case, person, and subject indices.

ZAJAC, EDWARD E. *Fairness or efficiency: An introduction to public utility pricing.* Cambridge, Mass.: Harper and Row, Ballinger, 1978. Pp. xiv, 119. *JEL 79-0785*

Developed primarily for non-economists involved in aspects of public utility regulation. Outlines the salient problems of equity and efficiency in government regulation of public utilities. Includes treatments of the ideal market economy, allocative efficiency, Ramsey prices ("economically

efficient") in the regulated sector, theories of equity, the stability of regulated prices, and public choice theory. Indicates areas in which regulation can and cannot substitute for competition, given the institutional and political setting of the United States. The author is Head of the Economics Research Group at Bell Laboratories. Index.

ZERBE, RICHARD O., JR., ed. *Research in law and economics: A research annual.* Volume 1. Greenwich, Conn.: JAI Press, 1979. Pp. ix, 243. $27.50, institutions; $14.00, individuals. *JEL 79–0786*

Eleven previously unpublished articles in the area of economics and law. Includes articles on occupational licensing, U.S. and Canadian airline regulation, the destructive nature of airline service competition, airline regulatory inefficiency, new taxation methods for the free rider problem, and a theory of government advertising. Also includes material on: protecting the right to be served by a public utility, the role of the compensation principle, the dynamics of regulation, and peakload pricing and efficiency in the presence of institutional constraints. The selections are longer than usual journal articles and, although some are mathematical, written "so the results . . . are broadly accessible." The editor is a member of the Department of Economics, University of Washington. Index.

See also: Book Numbers *JEL 79–0647, 79–0791, 79–0811*

620 ECONOMICS OF TECHNOLOGICAL CHANGE

GAMBINO, ANTHONY J. AND GARTENBERG, MORRIS. *Industrial R&D management.* New York: National Association of Accountants, 1979. Pp. x, 134. Paper. *JEL 79–0787*

Study of internal management techniques for industrial R&D; investigators R&D budgeting, scheduling, costing, reporting, and evaluation. Research based on a literature survey and on interviews with managers of 12 industrial firms. Discusses ways in which effectiveness of R&D effort can be improved with the judicious use of measurement and control devices to provide information for managerial decision-making. Suggests that greater use can be made of quantitative methods; that firms make more use of the Program Evaluation Review Technique (PERT), the Critical Path Method (CPM), and other network techniques as a project control tool; and that greater effort be made to evaluate the contribution of the R&D function. The authors are researchers with the National Association of Accountants. Bibliography, no index.

GOULET, DENIS. *The uncertain promise: Value conflicts in technology transfer.* New York: IDOC/North America in cooperation with the Overseas Development Council, 1977. Pp. xiv, 320. $5.95, paper. *JEL 79–0788*

Focuses on "competing visions of benefits" or value conflicts in the transfer of industrial technologies from private firms in the United States to Third World countries in Latin America. Argues that there exists a "vital nexus which links the value content of modern technology to basic development strategies and to technology policies adopted in less-developed countries"; and uses this philosophy to examine the "values and dynamisms" of the universe of technology, (2) to assess the impact of the "two-edged sword" of technology transfers on development, and (3) to consider options for technology policy for economic development. Concludes that technology and development both have beneficient and destructive aspects, but as societies struggle for genuine development, the key lies in the criteria chosen to decide which values to preserve. Based on documents reviewed and field research conducted from September 1972 to December 1975. The author is presently a senior fellow at the Overseas Development Council in Washington, D.C. Index.

HEERTJE, ARNOLD. *Economics and technological change.* English edition. London: Weidenfeld and Nicolson; distributed by Wiley, Halsted Press, [1973] 1977. Pp. xii, 334. $10.95, paper. *JEL 79–0789*

Paperback edition is now distributed in the United States by Halsted Press. [See *JEL no. 78–0179* for annotation.]

PALDA, KRISTIAN S. *The Science Council's weakest link: A critique of the Science Council's technocratic industrial strategy for Canada.* Vancouver, B.C.: Fraser Institute, 1979. Pp. xiv, 60. $4.95, paper. *JEL 79–0790*

Criticizes the Bretton and Gilmore 1978 study for the Canadian Science Council on achieving technological sovereignty, *The Weakest Link: A Technological Perspective on Canadian Industrial Underdevelopment* [see *JEL no. 79–0490*]. Maintains that the Science Council's economic facts and analyses are inadequate and suggests that the study is "a lobbying effort" to "create more jobs for scientists and engineers and . . . to promote economic nationalism." The author is Professor of Business Economics at the School of Business at Queen's University, Kingston, Ontario. No index.

See also: Book Number *JEL 79–0780*

630 Industry Studies

Cripps, Francis and Godley, Wynne. *The planning of telecommunications in the United Kingdom.* Cambridge: University of Cambridge, Department of Applied Economics, 1978. Pp. 76. £1.50, paper. *JEL 79-0791*

Argues that the logic of telecommunications planning guided by cost-minimization criteria, and weakly monitored, has been faulty and constructs a practical set of planning principles. Describes the development of the system using statistics for the post-1950 period, summarizes the changes in customer requirements and technology in the field, and analyzes alternative approaches to planning in the area. Argues that the Post Office "is not an appropriate body to determine a national strategy for telecommunications," and endorses the 1977 Carter Review Committee's recommendation for the establishment of a policy council, but feels that the proposed scope of its powers and range of activities are inadequate. Concludes that many criteria other than cost should be estimated and monitored as a guide to decision-making in planning the telecommunication system. No index.

Kruzas, Anthony T. and Schmittroth, John, Jr., eds. *New information systems and services: A periodic supplement to the third edition of Encyclopedia of Information Systems and Services.* Issue 1, March 1979, Entries 2095–2329. Detroit: Gale Research, 1979. Pp. 75. $60.00, inter-edition subscription, paper. *JEL 79-0792*

Provides current and continuing coverage of developments between editions of the *Encyclopedia of Information Systems and Services* [for annotation of latest edition, see *JEL no. 79-0196*]. Index.

Nielson, Jens and Nielson, Jackie. *How to save or make thousands when you buy or sell your house.* Revised Edition. Garden City, N.Y.: Doubleday, Dolphin Books, [1971, 1974] 1979. Pp. xii, 179. $5.95, paper. *JEL 79-0793*

Guidebook aimed at acquainting the reader with a typical real estate transaction. In three parts: being a wise seller; being a wise buyer; and legal and financial aspects of real estate transactions. Each section includes several worksheets. A list and description of the various forms used in real estate are appended. Index.

Sichel, Werner, ed. *Public utility rate making in an energy-conscious environment.* Westview Special Studies in Natural Resources and Energy Management. Boulder: Westview Press, 1979. Pp. xxiii, 145. $18.50. *JEL 79-0794*

Seven previously unpublished essays by economists and lawyers on the controversy involving the level and structure of prices in the natural gas and electricity industries, originally presented at the Seventh Michigan Conference on Public Utility Economics, held at Wayne State University in the spring of 1977. Following two papers each, on rate-making in natural gas and electricity, the authors look at an indexing experiment used in New Mexico, the procedural impediments to rate changing, the relationship between conservation and the prices of electricity and natural gas. Contributors include: Paul L. Joskow, Roger W. Koenker and David S. Sibley, Lawrence Kumins, Philip J. Mause, Alfred L. Parker, Thomas D. Morgan, and Eric Schneidewind. The editor is Professor of Economics at Western Michigan University. Index.

See also: Book Numbers *JEL 79-0643, 79-0664*

700 Agriculture: Natural Resources

710 Agriculture

Hayami, Yujiro. *Anatomy of a peasant economy: A rice village in the Philippines.* In association with M. Kikuchi et al. Los Banos, Philippines: International Rice Research Institute, 1978. Pp. viii, 149. Paper. *JEL 79-0795*

Case study examining the impact of new rice technology on employment and income distribution in a Philippine rice village. Based on detailed records of 11 households (out of a total of 95) for 1975–76 of family labor allocation among current production and capital formation, as well as of all marketed and nonmarketed transactions of a sample of households. Documents the flows of goods and services among various household and village activities to ensure consistency in a double-entry system. The author is Professor of Economics at Tokyo Metropolitan University. No index.

The International Rice Research Institute. *Economic consequences of the new rice technology.* Los Banos, Philippines: International Rice Research Institute, 1978. Pp. v, 402. Paper. *JEL 79-0796*

Thirteen previously unpublished papers from a December 1976 conference sponsored by the International Rice Research Institute, appraising the socioeconomic impact of the development and diffusion of modern rice varieties in tropical and subtropical Asia, including harmful as well as beneficial effects. Papers organized by major topic: output and supply; farm income structure; labor and mechanization; fertilizer and water; social

benefits; and policy. Comments by participants follow each paper. No index.

SHAW, PAUL. *Canada's farm population: Analysis of income and related characteristics.* Census Analytical Study. Ottawa: Statistics Canada by authority of the Ministry of Industry, Trade and Commerce, 1979. Pp. 284. $2.80, paper.

JEL 79–0797

Study of the socioeconomic characteristics of Canada's farm population, based on the Ag-Pop data base developed from the 1971 *Census* of Agriculture and Population. Provides data on demographic and economic characteristics of farm households, analyzes the relationship between farm incomes and farm performance and attributes, examines differentials in operator characteristics according to six agricultural sales categories, and evaluates human versus non-human elements in farming and their effects on performance and income. Finds in part that: Farm family sizes are above the average; the resident farm population varies between provinces; age and total income are positively related; off-farm employment has become a significant portion of farm income; and an upgrading of the distribution of operators by education will have a positive influence on farm performance. Includes considerable data on farm population and income for 1971. Bibliography; no index.

SUBBARAO, K. *Rice marketing system and compulsory levies in Andhra Pradesh: A study of public intervention in foodgrain marketing.* Institute of Economic Growth, Delhi, Studies in Economic Development and Planning, no. 22. Bombay: Allied Publishers, 1978. Pp. xvi, 173. Rs. 50.00.

JEL 79–0798

Examines the economic efficiency of the rice marketing system in the West Godavari district, Andhra Pradesh region of India (1968–72), the forces promoting or impeding competition between buyers and sellers of the product in the villages, the impact of public intervention, and the potential of the prevailing system to meet future requirements. The West Godavari district was chosen for study because of intensive procurement operations of the government in the district. Finds organizational and efficiency problems in the marketing system, but indicates "losses suffered by the small farmers on account of various imperfections in the marketing system, when related to their total income, do not appear to be . . . large." Finds that evasion of the producer levy is widespread and that the levy proportions and prices fixed by government leave no margin to the rice millers; but also, government policies result in excess capacity. The study is an extended version of the author's Ph.D. thesis, University of Delhi. The author is a Reader at the Institute of Economic Growth, Delhi. Bibliography; index.

THIAM, TAN BOCK AND ONG, SHAO-ER, eds. *Readings in Asian farm management.* Singapore: Singapore University Press, 1979. Pp. x, 350. Paper.

JEL 79–0799

Twenty-four previously published articles intended as supplemental reading in an undergraduate course in farm management. Focused specifically on the Asian world and drawn from professional journals, primarily in Asia, the selections are in five parts: economic principles and applications; farm business and management analysis; institutional factors; technological innovation; and policy issues. Each section includes an introduction by the editors. S. Ong is in the Department of Agricultural Economics, Kasetsart University, Bangkok, and T. B. Thiam is on the Faculty of Agriculture, University of Malaya, Kuala Lumpur. No index.

See also: Book Numbers *JEL 79–0618, 79–0714, 79–0741, 79–0761, 79–0805*

720 NATURAL RESOURCES

AHMED, S. BASHEER. *Nuclear fuel and energy policy.* Lexington and Toronto: Heath, Lexington Books, 1979. Pp. xviii, 158. $17.00.

JEL 79–0800

Develops an economic framework to examine the nuclear fuel cycle and U.S. uranium mining and milling industries and presents a recursive econometric model that forecasts uranium outputs and prices for the period 1977–2000. Three cases were used for the simulation: a base-case expansion of nuclear capacity to 380,000 megawatts (MW) by the year 2000; an increase in nuclear capacity at a faster rate than the base case (620,000 MW); and expansion at a slower rate to 330,000 MW capacity in 2000. Finds in part that: (1) in all cases, prices for uranium are expected to double during the period 1980–2000; (2) the U.S. has sufficient uranium to meet fuel needs of the maximum projected nuclear capacity; (3) there is no fear of shortages in world supply of enrichment capacity; and (4) uncertainties in coal's future may cause the differential costs between coal and nuclear fuel to widen in favor of nuclear. The author is Professor of Economics, Western Kentucky University. Bibliography; index.

AUSLAND, JOHN C. *Norway, oil, and foreign policy.* Westview Special Study. Boulder, Colo.: Westview Press, Oslo: J. W. Cappelens Forlag A. S., 1979. Pp. ix, 140. $15.00. *JEL 79–0801*

Analysis of the problems, benefits, and future prospects of Norway as an oil-producing nation from the foreign policy standpoint. Discusses Norway's position *vis-à-vis* OPEC and the International Energy Agency (IEA) as well as oil prices, profits, and production in general. Concludes that while Norway's role in world oil production is likely to increase rather than diminish, the prospects for any kind of organization or coordination of North Sea activities seem poor. The author, now a writer, was with the U.S. foreign service for 25 years. No index.

EXTAVOUR, WINSTON CONRAD. *The exclusive economic zone: A study of the evolution and progressive development of the international law of the sea*. International Law Series, no. 5. Leiden: Sijthoff & Noorhoff International; Geneva: Institut Universitaire de Hautes Études Internationales, 1979. Pp. xv, 369. $30.00. *JEL 79-0802*

Describes the evolution of the concept of the exclusive economic zone in the law of the sea and analyzes various problems the concept poses. Examines how developments in state practice relating to extended maritime jurisdiction have shaped the modern concept of the exclusive economic zone; uses the draft text of the Third United Nations Conference on the Law of the Sea to elaborate on specific rules constituting the concept; assesses the current state of the law; and speculates on consequences of not adopting the Convention on the Law of the Sea. The author is Lecturer in International Law at the Institute of International Relations, Trinidad, Bibliography; index.

FIELD, BARRY C. AND WILLIS, CLEVE E. *Environmental economics: A guide to information sources*. Man and the Environment Information Guide Series, vol. 8. Gale Information Guide Library. Detroit: Gale Research, 1979. Pp. xix, 243. $22.00. *JEL 79-0803*

Annotated selected bibliography of sources from the physical, social, and natural sciences on the economics of the environmental management and planning process. Draws from periodical literature, government documents, journal articles, and books. In two parts: theoretical works and empirical studies. Lists of relevant textbooks, collected volumes, government agencies, legislation journals, and abstracts and digests appended. B. C. Field is Associate Professor of Economics, University of Miami, and C. F. Willis is Professor of Resource Economics, University of Massachusetts at Amherst. Author, title, and subject indices.

FOLIE, MICHAEL AND MCCOLL, GREGORY D. *The international energy situation five years after the OPEC price rises*. CAER Paper, no. 5. Kensington, New South Wales: Centre for Applied Economic Research, University of New South Wales, 1978. Pp. 156. $3.00, paper. *JEL 79-0804*

Examines the principal recent projections of the demand for and supply of primary energy in the world economy, including those of the OECD, the Workshop on Alternative Energy Strategies (WAES), Exxon, World Energy Conference (WEC), the U.S. Central Intelligence Agency, (CIA) and others. Reviews briefly the trends in energy consumption 1925–77, but particularly from 1960–73; assesses the estimates for demand in the world as a whole and in the United States, Western Europe, Japan, and the non-OPEC, less developed countries; considers the projected trends in supply of oil, natural gas, coal, and uranium. Asserts that, despite expected increases in oil production elsewhere, "an increase in the absolute level of OPEC production will be required up to the mid-1980s" even with relatively low growth rates in the world economy. Suggests that "alternatives to oil could play a much bigger role in the energy situation in the 1990s and beyond the turn of the century" and, *assuming* that the OPEC countries do not restrict production, "it is by no means certain that the real price of oil will rise substantially." No index.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS. *China: Forestry support for agriculture. Report on a FAO/UNDP study tour to the People's Republic of China, 11 August–30 September 1977.* FAO Forestry Paper no. 12. Rome: Author; distributed by Unipub, New York, 1978. Pp. xii, 103. $4.50, paper. *JEL 79-0805*

The report of a 1977 international study tour designed to observe and analyze the Chinese approach to forestry development and how it is integrated into and supports agriculture. Examines the links between forestry and agriculture as shown by the organizational structure, education, and research and extension programs, economic policy and planning, and the impact of general agricultural policy and specific activities on forestry. Considers the adaptation of China's practices to other countries and recommends follow-up projects. Includes numerous photographs. No index.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, FORESTRY DEPARTMENT. *Forestry for local community development*. With the assistance of the Swedish International Development Authority. FAO Forestry Paper no. 7. Rome: FAO; distributed by Unipub, New York, 1978. Pp. 114. $5.00, paper. *JEL 79-0806*

Examines the nature and scope of dependence on forests and forest products at the local rural community level in different parts of the developing world; assesses the problems and possible solutions for the development of rural areas; and identifies forestry policies and project specifications for forestry programs likely to benefit poor rural communities. Appendices constitute almost half the study and provide an outline for area surveys; summaries of 17 case studies by country; other forestry data; and annotated references. No index.

HANNESSON, RÖGNVALDUR. *Economics of fisheries: An introduction*. Bergen, Norway: Universitetsforlaget; distributed by Columbia University Press, New York, 1979. Pp. 156. $18.00. *JEL 79-0807*

Introduction to the study of fish resources, approached in a welfare-economic vein. Examines the natural resource base of fish, conditions for simultaneous biological/economic equilibrium, and the supply curve and marginal cost of the fishery. Discusses two ownership possibilities: sole ownership and public management and reviews the application of applied yield models developed by fishery biologists. Assumes some background in microeconomics and welfare theory. The author is Senior Lecturer in Economics at the University of Bergen, Norway. Selected bibliography; index.

KRAUSE, LAWRENCE B. AND PATRICK, HUGH, eds. *Mineral resources in the Pacific area: Proceedings of the Ninth Pacific Trade and Development Conference*. San Francisco: Federal Reserve Bank of San Francisco, 1978. Pp. 710. Paper. *JEL 79-0808*

Thirteen papers, related discussions, and addresses from a conference held in San Francisco on 22–26 August 1977. The papers are in three parts: theoretical and empirical studies on the economics and politics of natural resources; case studies on resource endowment and economic development in Australia, Japan, Chile, and Korea; and policy alternatives to international trade arrangements, which have failed in the past. Participants generally agree that: (1) the world does not face a shortage of raw materials; (2) many countries are, however, concerned about the security of energy supplies; and (3) the best way to solve resource market instability is through international stabilization commodity agreements; income redistribution, although a legitimate goal, is a separate issue. L. B. Krause is a Senior Fellow at the Brookings Institution and H. Patrick is Professor of Far Eastern Economics at Yale University. No index.

MCDONALD, STEPHEN L. *The leasing of federal lands for fossil fuels production*. Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1979. Pp. xiv, 184. $15.95. *JEL 79-0809*

Examination of federal mineral land-leasing policy based on the view that the greater part of the remaining fossil fuel resources in the United States are to be found on lands under federal jurisdiction. Argues that the government leasing policy "should try to capture a maximum of the present value of the pure economic rent arising from minerals production on federal lands." Abstracts from administrative details and procedures. Develops an analytical framework based on economic rent and optimum rate of output of minerals, and specific procedures in land leasing. Recommends that all such leasing should be by competitive bidding in the form of bonus bidding (a lump sum payment made at the time of leasing) with a modest fixed royalty; also that joint bidding by all but the largest bidders should be allowed as tending, on balance, to increase competition. Suggests experimentation with various bidding schemes. The author is Professor of Economics, University of Texas at Austin. Index.

MITCHELL, EDWARD J., ed. *Oil pipelines and public policy: Analysis of proposals for industry reform and reorganization*. AEI Symposia, no. 79-E. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 392. $13.75, cloth; $6.75, paper. *JEL 79-0810*

Six previously unpublished papers plus comments by economists, lawyers, and oil pipeline experts from a conference sponsored by the American Enterprise Institute in March 1979. Part one is on pipeline divestiture (Donald L. Flexner) and the pipeline undersizing argument (Edward W. Erickson, Gayle C. Linder, and William L. Peters), and part two covers regulation by the government (Thomas C. Spavins) and its effectiveness (Ulyesse J. LeGrange). The third part considers some alternatives to the present pipeline systems (Lucinda M. Lewis and Robert J. Reynolds) and pipelines and public policy (Michael E. Canes and Donald A. Norman). Includes supplementary material: testimony and two government agency reports on pipeline competitiveness, an Exxon report on rates of returns, and a discussion of industry structure by S. Morris Livingston. The editor is Professor of Economics, University of Michigan Graduate School of Business and the Director of the Energy Policy Studies at the AEI. No index.

MULHOLLAND, JOSEPH P. *Economic structure and behavior in the natural gas production indus-*

try. Staff Report of the Bureau of Economics to the Federal Trade Commission. Washington: U.S.G.P.O., 1979. Pp. vii, 166. Paper. *JEL 79-0811*

An analysis of the competitive potential of the natural gas supply industry in the absence of price regulation. Reviews industry characteristics; examines national concentration ratios; evaluates the anticompetitive effect of joint ventures on seller structure; and explores the ownership pattern of extended-term nonproducing leases in the federal offshore sector. Chief source of data is producer responses to the Federal Trade Commission's *Natural Gas Survey Questionnaire*. Principal findings are that (1) seller concentration is relatively moderate; (2) the industry's exchange characteristics tend to limit the scope of monopolistic behavior; (3) integration between producers and transporters does not appear to pose a competitive threat; (4) although joint venture activity is broad and growing, its current level is not a problem for competition. Concludes that "Federal price regulation is not necessary to control monopolistic tendencies in the gas sector." Extensive appendices; no index.

PHILLIPS, OWEN. *The last chance energy book.* Baltimore and London: Johns Hopkins University Press, 1979. Pp. x, 142. $9.95. *JEL 79-0812*

Nontechnical explanation by a geophysicist on the magnitude of the energy crunch, why the problem will worsen before it improves, and the options available at the individual and national levels. Discusses both conservation, including individual household, and alternative energy sources. Little economic content. The author is Decker Professor in Science and Engineering at the Johns Hopkins University. Index.

PINDYCK, ROBERT S., ed. *The structure of energy markets.* Advances in the Economics of Energy and Resources: A Research Annual: 1979, Volume 1. Greenwich, Conn.: JAI Press, 1979. Pp. vi, 310. $27.50, institutions; $14.00, individuals. *JEL 79-0813*

Ten previously unpublished papers on aspects of the energy market and its relation to the macroeconomy. Topics include: energy and the economy, the elasticity of substitution between energy and other factors of production, and the application of "The Stanford PILOT Energy/Economic Model" to the energy policy, the effect of the Energy Policy and Conservation Act (1975) on gasoline demand, the industrial organization of the oil industry, and the economic viability of the "throwaway" fuel cycle. Also covers the importance of nuclear power for developing countries and the role of the financial sector in adjustment to higher oil prices. The editor is at the Sloan School of management, Massachusetts Institute of Technology. No index.

PINDYCK, ROBERT S., ed. *The production and pricing of energy resources.* Advances in the Economics of Energy and Resources, A Research Annual: 1979, volume 2. Greenwich, Conn.: JAI Press, 1979. Pp. xi, 250. $26.50, institutions; $13.50, individuals. *JEL 79-0814*

Ten previously unpublished papers by eleven authors on energy resource supply, pricing, and management. Topics covered include: statistical forecasting of discovery rates; theoretical issues in the exploration, production, and pricing of exhaustible resources; optimal exploitation; the role of supply in world markets; and the relation between resource markets and the macroeconomy. The editor is at the Sloan School of Management, Massachusetts Institute of Technology. No index.

PRICE, COLIN. *Landscape economics.* New York: Holmes & Meier; London: Macmillan Press, 1978. Pp. xii, 168. $29.50. *JEL 79-0815*

Suggests approaches to the economic evaluation of landscape. Identifies characteristics of landscape value and associated cost concepts. Outlines purely aesthetic, the political, and the purely statistical approaches to evaluation and then attempts a synthesis. Includes treatments of values over time and applications to land-use changes. The author is Lecturer in the Department of Forestry and Wood Science at the University College of North Wales. Glossary; index.

SCHELLING, THOMAS C. *Thinking through the energy problem.* New York: Committee for Economic Development, 1979. Pp. xi, 63. $5.00, paper. *JEL 79-0816*

Argues that the issue of paramount importance in the energy problem is price and that regulation of prices "subsidizes excessive consumption, inhibits exploration and development of supply, and misrepresents the worth of technological changes that economize energy." Identifies oil imports as a key in the connection between domestic energy policy and many other energy-related strategic and foreign policy issues. Contends that holding U.S. oil imports to more reasonable levels will provide leverage to other oil-importing countries as well. Concludes that although the market system does not respond to all environmental and foreign policy concerns, the market's flexibility and adaptability provide the best resource in dealing with the energy situation. The author is Lucius N. Littauer Professor of Political Economy, John Fitzger-

ald Kennedy School of Government, Harvard University. No index.

SHECHTER, MORDECHAI AND LUCAS, ROBERT C. *Simulation of recreational use for park and wilderness management.* Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1978. Pp. xix, 220. $18.50. *JEL 79-0817*

Designed to aid in a computer-based–simulation model used to predict overall use patterns of new trails, trail closures, new camp areas, new entry points, *etc.*, which aims at preserving the wilderness aspect of public wilderness parks through restricting the number of people who may receive the benefit while attempting to minimize the number of people excluded and activities prohibited. The model is based on an earlier simulator developed at Resources for the Future and is applied to problems of wilderness management in the Desolation Wilderness of California. Provides description of the model, an overview of the characteristics of Desolation Wilderness, discussions of the input data and of validation tests, and evaluates the use of the model in formulating and testing use management policies. The authors are, respectively, Associate Professor of Economics at the University of Haifa and senior researcher, Technion-Israel Institute of Technology; and Project Leader of the USDA Forest Service, Intermountain Forest and Range Experiment Station at Missoula, Montana. Subject and author indices.

SINGH, NARINDAR. *Economics and the crisis of ecology.* Second edition. Delhi: Oxford University Press, [1976] 1978. Pp. xii, 181. $3.95, paper. *JEL 79-0818*

This edition has a new epilogue entitled "Ecology and Heresy." [See *JEL no. 77-0833* for annotation of first edition]. Select bibliography; index.

SONENBLUM, SIDNEY. *The energy connections: Between energy and the economy.* Cambridge, Mass.: Harper & Row, Ballinger, 1978. Pp. xvii, 261. $18.50. *JEL 79-0819*

Presents alternative views of the desirability of economic growth, stressing the role of energy in that growth and discussing the desirable and undesirable aspects of energy use. Describes energy consumption trends and sources of economic growth in the United States over the past century. The author reluctantly comes out in favor of expanded supply and use of fossil and nuclear fuels, since he sees continued economic growth in the United States and the world as desirable and tied, at present, to fossil and nuclear fuels. The author is an economic research consultant and is associated with the University of Southern Californi[a]. Index.

WHITTLE, CHARLES E., ET AL. *Economic and env[i]ronmental impacts of a U.S. nuclear moratoriu[m] 1985–2010.* Second edition. MIT Press and the In[-]stitute for Energy Analysis, Perspectives in Energ[y] Series. Cambridge, Mass., and London: MIT Pres[s] [1976] 1979. Pp. xl, 381. $17.50. *JEL 79-082*

This volume inaugurates a series of studies dea[l]ing with long-term energy problems, conducte[d] by the Institute for Energy Analysis (IEA) an[d] sponsored by the Institute and the MIT Press; fir[st] edition was an IEA report to the National Researc[h] Council's Committee on Nuclear and Alternativ[e] Systems. Studies what the implications would b[e] for the United States of a moratorium on nucle[ar] energy if its supply were frozen at the level i[n] production or under construction in 1980. Est[i]mates future demand for energy, particularly elec[-]tricity, developing a " 'high' estimate for total en[-]ergy . . . [that] is much lower than most previousl[y] published estimates." Examines economic and en[-]vironmental implications, including future cost o[f] electricity, regional dislocations, nuclear industr[y] impacts, effect on the coal industry, internationa[l] impacts, reactor accident probabilities versus ex[-]pected coal mining accidents at a local level; reac[-]tor radiation emissions versus coal-fired emission[s] effects on public health, and uranium mining ver[-]sus coal mining impacts on land use. Conclude[s] in part, that nuclear power appears to be cheape[r] than fossil fuel-generated power for most region[s] of the United States and that emissions of atmo[-]spheric pollutants would be about 20 percen[t] lower if nuclear power were not curtailed. Inde[x].

See also: Book Numbers *JEL 79-0721, 79-0741, 79-0781, 79-0782, 79-0794*

730 ECONOMIC GEOGRAPHY

See also: Book Number *JEL 79-0646*

800 Manpower; Labor; Population

ADDISON, JOHN T. AND SIEBERT, W. STANLEY. *Th[e] market for labor: An analytical treatment.* Sant[a] Monica: Goodyear, 1979. Pp. xi, 500. *JEL 79-082*

A text. Approach outlines the main theories i[n] each area and examines the empirical studies "t[o] discriminate among the alternative theories." Par[-]ticular areas covered include: demand for and sup[-]ply of labor, investment in human capital, labo[r] market efficiency, discrimination, negotiation, col[-]lective bargaining, job regulation, income distr[i-]

bution, unemployment, and wage inflation. Requires "acquaintance with methods . . . of statistics commonly used in economics." Provides review of statistical concepts and useful calculus in the introduction and in an appendix. Author and subject indices.

BAIN, G. S. AND WOOLVEN, G. B. *A bibliography of British industrial relations.* New York; London and Melbourne: Cambridge University Press, 1979. Pp. xxiv, 665. $99.50. *JEL 79-0822*

Interdisciplinary bibliography of secondary material published in English between 1880 and 1970 on British industrial relations. Includes all printed books, pamphlets, articles in journals, theses, and government reports from the fields of industrial psychology and sociology, labor economics, labor law, labor history, personnel management, and social administration. The 15,056 entries are in seven major parts: general; industrial attitudes and behavior of employees; employee organization; emplo organizations; labor–management relations; conditions of employment; and the state and its agencies; detailed breakdowns within each part. G. Bain is Director of the Industrial Relations Research Unit, University of Warwick and G. Woolven is Editorial and Information Assistant in the Publications and Information Department of the Association of Commonwealth Universities.

BELLANTE, DON AND JACKSON, MARK. *Labor economics: Choice in labor markets.* New York; London; Montreal and Paris: McGraw-Hill, 1979. Pp. xiii, 316. $14.95. *JEL 79-0823*

Text for a one-semester course in labor economics, for students who have had a principles course. Written within a neoclassical or choice-theoretic framework, the material is in four parts: labor demand and supply; wage differences under pure competition; wage differences attributable to imperfect competition; and macroeconomics and labor markets. Chapters supplemented by questions, exercises, and lists of further readings. The authors are Associate Professors of Economics at Auburn University. Name and subject indices.

BURTT, EVERETT-JOHNSON. *Labor in the American economy.* New York: St. Martin's Press, 1979. Pp. xvii, 489. $14.95. *JEL 79-0824*

Introductory text in labor economics, focusing both on theory and policy considerations. In four parts: labor force, supply, demand, and markets; development of unions and union policy; collective bargaining and the role of government controls; and wages, unemployment, and economic security. Chapters include questions for discussion. The author is at Boston University. Glossary; index.

DENNIS, BARBARA D., ed. *Proceedings of the thirty-first annual meeting, August 29–31, 1978, Chicago.* Industrial Relations Research Association Series. Madison: Industrial Relations Research Association, 1979. Pp. x, 351. $10.00, paper. *JEL 79-0825*

Comprises thirty-three papers, many with discussions, Charles C. Killingsworth's presidential and Robben W. Flemming's distinguished speaker addresses, and the annual reports for 1978. Papers in ten parts: the objectives of unemployment compensation; the welfare system and labor markets; labor–management relations; labor markets; a dissertation roundtable; issues in employment policy; union organizing; wage adjustment and the CPI; civil rights and equal employment opportunity; and theoretical developments in labor economics and related implications for policy analysis. The editor is at the University of Wisconsin. No index.

KLEIN, LAWRENCE R. AND GHOZEIL, SUSAN. *A popularized version of 21 doctoral dissertations.* R&D Monograph no. 70. Washington, D.C.: U.S. Department of Labor, 1979. Pp. vii, 113. Paper. *JEL 79-0826*

Third in a series designed to make the findings from recent dissertation research available to a wide audience. Topics reflect a broad selection from work in the social and behavioral sciences on "stresses in the labor market" and "stresses on the labor force." The present volume condenses twenty-one dissertations in language accessible to nonacademics; previous volumes consisted of dissertation abstracts. Attempts to summarize the purpose, the approach, the findings, and actual or potential applications of each dissertation. Lawrence R. Klein is Adjunct Professor of Economics at the University of Arizona, and Susan Ghozeil is Associate Director of the Pima Alcoholism Consortium in Tucson, Arizona. No index.

OSTRY, SYLVIA AND ZAIDI, MAHMOOD A. *Labour economics in Canada.* Third edition. Assisted by GAIL COOK JOHNSON. Toronto: Macmillan of Canada, 1979. Pp. 418. $12.50, paper. *JEL 79-0827*

Text that focuses on institutional and quantitative aspects of the Canadian labor market, particularly labor supply and wages. This edition, like the others, stresses policy issues and includes expanded treatment of manpower policy and incomes policy. All quantitative analyses have been updated. [See *JEL no. 75-0227* for annotation of second edition.] Dr. Ostry is Chairman of the Economic Council of Canada and Dr. Zaidi is Professor in the Industrial Relations Center at the University of Minnesota. Author and subject indices.

810 Manpower Training and Allocation; Labor Force and Supply

See also: Book Number *JEL 79-0786*

820 Labor Markets; Public Policy

DUNETZ, MARTIN R. *How to finance your retirement.* Reston, Va.: Prentice-Hall, Reston Publishing Co., 1979. Pp. xii, 227. $16.95. *JEL 79-0828*

Workbook containing text, tables, graphs, and sample applications, on the specific investments applicable to retirement plans for professionals. The author discusses social security, private pension plans, the stock market, individual retirement accounts, annuities, educator retirement, mutual funds, and corporate plans. The author is a pension and investment consultant. Glossary; selected bibliography; index.

HIESTAND, DALE L. AND MORSE, DEAN W. *Comparative metropolitan employment complexes: New York, Chicago, Los Angeles, Houston, Atlanta.* Foreword by ELI GINZBERG. Landmark Studies. Conservation of Human Resources Series, no. 7. Montclair, N.J.: Allanheld Osmun; distributed by Universe Books, New York, 1979. Pp. xiii, 141. $21.50. *JEL 79-0829*

Based on the thesis that fundamental factors shaping employment patterns differ among major metropolitan areas, that these differences affect the operation of the employment complexes, and that these differences have a differential impact on the employment experiences and patterns of various groups in each area, examines five metropolitan employment complexes. Discusses industrial, occupational, demographic, attitudinal, geographic, transportation, and institutional factors in the five areas. Data are from existing studies of the areas, results of interviews conducted by the authors, and original analysis of the U.S. census and other data. Concludes with policy recommendations, stressing that policies, administrative structures, and programs must be sensitive to differences among areas. The authors are Professor of Business, Graduate School of Business, Columbia University, and Adjunct Professor of Economics, Fordham University, respectively; both authors are Senior Research Associates, Conservation of Human Resources Project, Columbia University. Bibliography; index.

MEIER, GRETL S. *Job sharing: A new pattern for quality of work and life.* Kalamazoo: W. E. Upjohn Institute for Employment Research, 1979. Pp. xx, 187. $4.50, paper. *JEL 79-0830*

Explores the evolution, the motives, the methods, and the personal outcomes of working arrangements in which two individuals hold a single job position. Based on responses to a 1977 survey of 238 job sharers representing 134 jobs nationwide. Occupations included teaching (26 percent), administration (25 percent), secretarial (15 percent), social service (13 percent), research (9 percent), the remainder comprised editors, librarians, bank tellers, physicians, and food service workers. Eighty-two percent of respondents shared a 40-hour a week job with one other person. The survey data were augmented by in-depth interviews designed to examine motivations and reactions to job sharing. Concludes with a treatment of policy implications and needs for the future. The author is Co-Director of New Ways to Work, a San Francisco–Palo Alto employment resource agency. No index.

PIORE, MICHAEL J. *Birds of passage: Migrant labor and industrial societies.* London; New York and Melbourne: Cambridge University Press, 1979. Pp. x, 229. $14.95. *JEL 79-0831*

Challenges view that income is the critical analytic variable in the migration process and presents an alternative theory. Emphasizes the "job characteristics" (other than income) of the jobs migrants take, in order to "explain why the economy needs these jobs and why native workers reject them." Based upon research projects concerned with the migration of black workers out of the American South, of Southern and Eastern European peasants to the United States, of guest workers in contemporary Europe, and undocumented workers from Mexico and the Caribbean in U.S. cities. Focuses on the demand for and characteristics of migrants; the implications of migration for the economic and political processes in the industrial country; the impact upon the place of origin; the role of migration in American history; and current problems and implications for public policy in the United States. Recommends three major reforms to the present migration system in the U.S.: (1) restrictions on the legal entry of high-level manpower, (2) reduction in the size of the secondary sector by imposition of stricter legal standards, such as the minimum wage, better health standards, and encouragement of collective bargaining, and (3) legitimatizing the present alien labor supply, but argues that the present migration system is "more effective than is generally recognized in meeting society's *real* goals, and that many proposals to reform the system are misguided." The author is Professor of Economics at the Massachusetts Institute of Technology. Bibliography; index.

See also: Book Numbers *JEL 79-0656, 79-0782, 79-0837, 79-0839*

830 Trade Unions; Collective Bargaining; Labor-Management Relations

van Helvoort, Ernest. *The Japanese working man: What choice? What reward?* Vancouver: University of British Columbia Press, 1979. Pp. 158. $15.50. *JEL 79-0832*

A study of personnel management in Japanese enterprises, emphasizing the psychological aspects of the firm-employee relationships. Examines, in turn, employee motivation; the basic principles of reward and promotion; training and education; decision-making, participation, and communication; quality control and safety practices; welfare; and the role of Japanese labor unions. Concludes that, while some changes have occurred within the Japanese pattern of personnel management, adherence to the principles of lifetime employment seems "tenacious" and is the principal explanation for the great Japanese economic leap-forward. The author is Director of the Netherland National Tourist Office in Tokyo. Selected bibliography. No index.

Radice, Giles. *The industrial democrats: Trade unions in an uncertain world.* London; Boston and Sydney: Allen and Unwin, 1978. Pp. 241. $17.25. *JEL 79-0833*

Examines the purpose and objectives of trade unionism in modern industrial society, arguing that if unions are to represent their members effectively, a major objective of British trade unionism must be the extension of industrial democracy. Investigates the environment within which the unions operate and their response to that environment. Outlines objectives, necessary for a more positive trade union approach covering the extension of collective bargaining, the development of industrial democracy, and broader social and economic aims. Discusses British trade union internal democracy, structure, and services, and the roles of the TUC and the Labour Party. Concludes that trade unions should share in all industrial decisions at all levels, should seek a continuing dialogue with government on economic and social priorities, and should expand their international outlooks through cooperation across national frontiers to deal with multinational firms and to play a constructive role within such organizations as the European Economic Community. The author is a Labour member of Parliament and former head of the research department of the General Municipal Workers' Union, Britain's third largest union. Index.

Taylor, Benjamin J. and Witney, Fred. *Labor relations law.* Third edition. Prentice-Hall Industrial Relations and Personnel Series. Englewood Cliffs, N.J.: Prentice-Hall, [1971, 1975] 1979. Pp. xiv, 834. $21.95. *JEL 79-0834*

Text for liberal arts and business school majors on trends in and funding of the law of collective bargaining. The organization of this edition remains the same as previous editions [see *JEL no. 75-0837*], but it includes new doctrines handed down by the National Labor Relations Board and the courts since the last edition. Contains a new chapter on minority workers' problems and additional material on the public sector, the Taft-Hartley Act, and board policies related to nonprofit hospitals. The texts of important national acts are appended. The authors are at the University of Oklahoma and Indiana University, respectively. Bibliography; case and general indices.

Valente, Cecilia M. *The political, economic, and labor climate in Venezuela.* Multinational Industrial Relations Series, No. 4; Latin American Studies (4d–Venezuela). Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, 1979. Pp. xviii, 280. $12.00, paper. *JEL 79-0835*

Examines the investment climate in Venezuela with particular emphasis on labor relations. Discusses Venezuelan politics and government, the economy, labor law, and the structure of organized labor. Concludes that Venezuela's evolution toward full development depends critically on the posture of human resources management and solution to the problems of the shortage of skilled labor and managerial talent, combined with widespread employment among the unskilled. The author is a Research Assistant in the Industrial Research Unit at the Wharton School, University of Pennsylvania. Index.

See also: Book Numbers *JEL 79-0652, 79-0764, 79-0830*

840 Demographic Economics

Cochrane, Susan Hill. *Fertility and education: What do we really know?* World Bank Staff Occasional Papers, no. 26. Baltimore and London: Johns Hopkins University Press for the World Bank, 1979. Pp. xii, 175. $6.95, paper. *JEL 79-0836*

Re-examines the evidence on the inverse relationship between education and fertility, focusing on the determinants of the relation and on the intervening variables through which education brings about reductions in fertility. Develops a model in which it is hypothesized that "education does not affect fertility directly, but that it acts through many variables" (*i.e.*, preferences for large families, knowledge of birth control) and

tests the model by reviewing studies in numerous countries, both those using aggregate and those using individual data on the relations of the variables to fertility. Findings suggest that "education may increase or decrease individual fertility," with a greater decrease for the education of women than of men and in urban rather than in rural areas. Also finds that education is more likely to increase fertility in the poorest countries, perhaps by improving health, nutrition, *etc.* The author, an economist at the World Bank, suggests additional areas of research as a requirement for policy formation. Author index.

HIEMENZ, U. AND SCHATZ, K. W. *Trade in place of migration: An employment-oriented study with special reference to the Federal Republic of Germany, Spain and Turkey.* A World Employment Programme, Study. Geneva: International Labour Office, 1979. Pp. x, 118. $8.75, paper. *JEL 79–0837*

Case study designed to indicate the effects of "the transfer of industry and employment opportunities" from developed countries with migrant labor to countries from which the migrant workers come. Examines probable effects of trade liberalization in Germany and direct foreign investment in Turkey and Spain. Surveys key growth, employment, trade, and development issues. and trends for three countries. Considers the impact of manufactured exports from developing countries on Germany and discusses the prospects of job transfers to Turkey and Spain. Also quantifies expected employment and capital effects of development policies that strive for closer integration of these countries in the international division of labor. Concludes that "international trade and capital movements can to a large extent be viewed as an alternative to the migration of workers," but this does not mean that employment of migrant workers in foreign countries will become completely insignificant in the future. The data bases for the empirical work are included. No index.

SPENGLER, JOSEPH J. *France faces depopulation.* Postlude Edition, 1936–1976. Studies in Social and Economic Demography. Durham, N.C.: Duke University Press, [1938] 1979. Pp. xiii, 383. $17.75. *JEL 79–0838*

This reprint of the original 1938 work has been updated by a lengthy postlude, which reviews (1) the international redistribution of politico-economic power since World War II, (2) demographic changes in France since 1936, and (3) French reactions to those changes; also includes a new bibliography. Surveys the history and problem of depopulation as perceived by French scholars, writers, and statesmen and reviews the theories and policies designed to offset the effects of low natality. The author is James B. Duke Professor of Economics Emeritus, Duke University. The index applies to the original work.

See also: Book Numbers *JEL 79–0603, 79–0645, 79–0831*

850 HUMAN CAPITAL

See also: Book Numbers *JEL 79–0625, 79–0720*

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

ALMQUIST, ELIZABETH MCTAGGART. *Minorities, gender and work.* Lexington and Toronto: Heath, Lexington Books, 1979. Pp. xi, 223. $17.95. *JEL 79–0839*

Examination of the literature and information on the plight of minorities and women in the labor market, specifically focusing on male–female differences in employment and earnings. Includes discussions on Indians, Blacks, Asian and Spanish-heritage minorities, and the costs of such discrimination. Also explores laws relating to minorities and the market. Finds in part that, except for the Japanese, opportunity in employment for minorities lags behind that of the white majority. In examining and commenting on the literature, the author uses data from the U.S. *Census of the Population, 1970.* The author is Associate Professor of Sociology, North Texas State University. Name and subject indices.

ANDERSON, ANNELISE GRAEBNER. *The business of organized crime: A Cosa Nostra family.* Stanford: Stanford University, Hoover Institution Press, 1979. Pp. 179. $10.95. *JEL 79–0840*

Case study of the illegal market activities and legitimate business investments of group members and close associates of an organized criminal group in a major American city. Based on data provided by a federal law enforcement agency (unidentified), public documents, and personal interviews with law enforcement personnel. Some conclusions are that (1) the business activities of the family studied are not significant in the economy of the city involved and do not pose a serious threat to legitimate business competitors or to customers; using this as a yardstick, questions whether the current level of resources devoted to fighting organized crime is not excessive; (2) the most "undesirable consequences" of the group relate to its

corruption of local police and other public officials and to the high prices of numbers gambling; and (3) questions the "headhunting" strategy of dealing with organized criminal groups and suggests a re-evaluation of public policy. The author is Assistant Professor of Business Administration at California State University, Hayward. Bibliography; index.

CAMPBELL, COLIN D., ed. *Financing social security.* AEI Symposia, no. 78H. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 352. $13.75, cloth; $6.75, paper. *JEL 79-0841*

Contains eight previously unpublished papers, discussions and commentaries, and the minutes of a round table discussion from a conference sponsored by the American Enterprise Institute for Public Policy Research, held in Washington, D.C., on 27-28 October 1977. Focus is on the size of social security benefits, the nature of alternative formulas for indexation proposals, and the pros and cons of wage indexation as opposed to price indexation. In five parts: the options available for indexation (William C. Hsiao and Lawrence H. Thompson); the consequences of indexation (Martin S. Feldstein and Anthony Pellechio, and Robert S. Kaplan); future financing outlook (June A. O'Neill and Edgar K. Browning); social security and its interaction with private pension plans (Alicia H. Munnell and Dennis E. Logue); and the round table. Finds in part that: (1) social security benefits may have become excessive due to benefits being directly tied to consumer prices and the decline in the birth rate starting in the mid-1960's; and (2) while price indexation will allow the system to operate in a less costly manner, wage indexation distributes benefits so as to maintain the same relative income position retirees had before retirement. The editor is a Professor of Economics at Dartmouth College and Adjunct Scholar at the AEI. No index.

DARBY, MICHAEL R. *The effects of social security on income and the capital stock.* AEI Studies in Social Security and Retirement Policy, no. 227. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 90. $3.25, paper. *JEL 79-0842*

Considers appropriate allowances for reduced dissaving by retirees, which would offset reduced saving by workers; incorporates in a life-cycle saving model the notion that asset accumulation occurs in anticipation of bequests as well as for financing retirement; compares previous work with a model utilizing an expanded consumer expenditure function; explores long-run equilibrium effects in closed and small open economies. Concludes that the bulk of assets are accumulated and net savings made to be bequeathed to one's heirs and simultaneously serve "as a form of generalized insurance against contingencies." Finds social security only minimally affecting bequest saving, though possibly reducing life-cycle saving. The author is Professor of Economics at the University of California at Los Angeles. Bibliography; no index.

EPSTEIN, SAMUEL S. *The politics of cancer.* San Francisco: Sierra Club Books, 1978. Pp. 583. $12.50. *JEL 79-0843*

Based on the view that cancer is caused by exposure to chemical or physical agents in the environment, the author argues that cancer can be controlled and prevented, given a concerted national effort, and examines the political process needed to bring about such an effort. Discusses the science of cancer, including case studies of various carcinogens, including asbestos, tobacco, pesticides, and ten others. Contends that the problem to face is the massive failure in information (which is in general adequate) dissemination and implementation of law. The author is Professor of Occupational and Environmental Medicine at the School of Public Health, University of Illinois at the Medical Center, Chicago. Index.

MAX, LAURENCE, ET AL. *The Michigan residential facilities project.* Studies in Welfare Policy, no. 12. Lansing: Michigan Department of Social Services, 1978. Pp. iv, 60. $5.00, paper. *JEL 79-0844*

Two-part study dealing with need for residential care of delinquent state wards. Book 1, "The Michigan Residential Facilities Projection Study," examines the residential care bed needs by type and geographical distribution in the state of Michigan from the present to 1990. Finds that no further expansion of institutions appears necessary. Book 2, "The Comparative Outcome Study: Post-placement Outcomes of Delinquent State Wards," focuses on recidivism in a sample of 960 delinquent youths released from placements over a three-year period. Some findings are (1) that status offenders and other nonaggressive youth are best treated outside institutional facilities, and (2) current treatments are generally ineffective. No index.

SLOAN, FRANK A. AND BENTKOVER, JUDITH D. *Access to ambulatory care and the U.S. economy.* Lexington and Toronto: Heath, Lexington Books, 1979. Pp. xix, 174. $16.95. *JEL 79-0845*

Identifies and measures the impact of adverse economic conditions in the mid-1970's on patient access to ambulatory physicians' services in the

United States. Reviews the literature; presents a cross-tabular and a multivariate analysis of time-series data from the 1969–75 Health Interview Surveys; focuses on the 1974 data with regard to the process and satisfaction with health care during a period of high unemployment and high inflation; and uses data from the Medical Access Study of 1975 to evaluate the patient's choice of site (GP, specialist, hospital, *etc.*) and variations in waiting time, length of visit, and appointment delays. Some findings are that (1) there exists a definite link between economic conditions and patient access to ambulatory care; (2) both inflation and unemployment exert adverse but not dramatic impacts on health status; (3) there is no systematic relationship between Medicaid patients and site of care; (4) persons with lower opportunity wages typically wait longer than persons with higher opportunity wages; and (5) the proportion of total visits in hospital outpatient departments increased from 1969 to 1975. Concludes that future inflation and recession if no worse than 1974–75 will not result in a total reversal of gains in patient access to health care. The authors are, respectively, Professor of Economics, Vanderbilt University, and Senior Health Economist at Arthur D. Little, Inc. Index.

SOTIROFF-JUNKER, JACQUELINE. *A bibliography on the behavioural, social and economic aspects of malaria and its control.* WHO Offset Publication no. 42. Geneva: World Health Organization, 1978. Pp. 94. SW. FR. 12.-, paper. *JEL 79-0846*

Bibliography for social scientists interested in material on the behavioral, social, and economic factors related to the epidemiology and control of malaria. Includes 1,178 citations. Trilingual (English, French, Spanish). The author is with the WHO's Division of Malaria and Other Parasitic Diseases. Index.

WHITE, WILLIAM D. *Public health and private gain: The economics of licensing clinical laboratory personnel.* Chicago: Maaroufa Press, 1979. Pp. ix, 137. $14.95. *JEL 79-0847*

Develops a political market model of occupational licensure and applies the model to a case study of the introduction and impact of the licensing of clinical laboratory personnel. The model is designed to analyze institutional changes in terms of who gains and who loses from changes, anticipations about changes and cost of action for or against these changes. Presents an overview of the industry and the history of the labor market for laboratory personnel for the 1900 to 1974 period; focuses on the experiences of Massachusetts and California with licensure laws. Investigates the laws' impact on labor costs and employment patterns in the laboratory industry using cross-sectional data for six laboratories in New England (no licensure laws) and seven in California (a strong licensure law). Finds that the evidence for socially beneficial effects of licensure is at best uncertain and that therefore careful analysis of costs and benefits are necessary, particularly before the introduction of new laws. Finds also that private-interest groups, *e.g.*, laboratory personnel, play an important role in policymaking; but also finds that bureaucrats in the public sector acting on their own behalf also play important roles. Suggests that attempts to reduce the role of special interest groups should take into account public sector special interest groups as well. The book is based on the author's Ph.D. dissertation (Harvard 1975). The author is Assistant Professor of Economics, University of Illinois at Chicago Circle. Bibliography; index.

WILLIAMS, MARY FRASE, ed. *Government in the classroom: Dollars and power in education.* Proceedings of the Academy of Political Science, vol. 33, no. 2. New York: Academy of Political Science, 1978. Pp. xii, 160. $5.95, paper. *JEL 79-0848*

Fifteen previously unpublished essays, plus an introductory essay by the editor, by education experts in universities, research organizations, and government on the governmental role in education, especially the apparent decline in local control. In three parts: nature of state and federal roles and diminution of the local role in education; programs and issues related to control of education; and a case study of school governance in Israel. The authors find in part that: (1) government involvement has created a huge bureaucracy; (2) local school districts in many cases have been successful at evading compliance with federal regulations; and (3) some professional educators welcomed the move to centralize control of education. The editor is a member of the faculty of Teachers College, Columbia University. Index.

See also: Book Numbers *JEL 79-0681, 79-0721, 79-0774, 79-0782*

920 CONSUMER ECONOMICS

UUSITALO, LIISA. *Consumption style and way of life: An empirical identification and explanation of consumption style dimensions.* Series A:27. Helsinki: Helsinki School of Economics, 1979. Pp. 207. *JEL 79-0849*

Develops the concept of "consumption style" as a means of describing qualitative differences and changes in household consumption patterns. Utilizes factor analysis, step-wise regression, and

multiple classification analysis to identify systematic differences in existing consumption patterns for a sample of Finnish households in 1971. Examines the impact of certain economic, social, and environmental factors on the most salient dimensions of consumption style. These dimensions are interpreted as "modernity," "variosity" (an indicator of consumption of cultural amenities), and "mobility" (share spent on transport). Classifies the sample households into categories reflecting their consumption style. Originally a dissertation presented to the Helsinki School of Economics. No index.

See also: Book Numbers *JEL 79–0782, 79–0817, 79–0828*

930 URBAN ECONOMICS

BRYCE, HERRINGTON J. *Planning smaller cities.* The Urban Roundtable Series. Lexington and Toronto: Heath, Lexington Books, 1979. Pp. xxi, 214. $21.95. *JEL 79–0850*

Focuses on the planning needs of small cities to meet their prospective problems, based on a survey conducted in 1975 of over 500 cities with 1970 populations of 10,000 to 100,000 and an in-depth study of five cities. Considers the problems of population growth and decline, service differentials in rich and poor cities, and community planning related to deteriorated neighborhoods. Finds that: (1) there is no shortage of planning in small cities; (2) needy cities are the least likely to have the responsibility for planning housing and economic development within their boundaries, are most likely to be the major providers of the basic expensive services, and are least likely to attract private capital; and (3) improvements in planning in small cities requires that critical data be made available and local leadership be improved, not that computer technology be introduced as some suggest. Includes considerable data on population taken from the 1970 *Census.* The author is Vice President for Research at the Academy for Contemporary Problems in Washington, D.C. Index.

CASTELLS, MANUEL. *The urban question: A Marxist approach.* Paperback edition. Translation of 1972 French edition by ALAN SHERIDAN. Cambridge, Mass.: MIT Press, [1977] 1979. Pp. x, 502. $9.95, paper. *JEL 79–0851*

Paperback edition of 1977 English translation of *La Question urbaine* (1972). Epistemological critique of traditional social science, technocratic, and media approaches to urban problems; develops, in the Marxian tradition, a theoretical framework and tools for understanding urban society. Attempts throughout to anchor the analysis in concrete empirical research. Particular topics treated include the urban crisis, accelerated urbanization, the "ideologies of the environment," state intervention, urban planning, popular unrest, and urban politics. The author is Director of the Seminar for Urban Sociology at the *École des Hautes Études en Sciences Sociales* in Paris. Index.

MIESZKOWSKI, PETER AND STRASZHEIM, MAHLON, eds. *Current issues in urban economics.* Baltimore and London: The Johns Hopkins University Press, 1979. Pp. xiv, 589. $25.00, cloth; $8.95, paper. *JEL 79–0852*

Sixteen previously unpublished papers on the state of urban economics theory, and the major research and policy issues in the field, originally presented at a conference sponsored by the Academy of Contemporary Problems held in Columbus, Ohio, in May 1977. Each paper attempts to review the literature and highlight research questions focusing on developments of the past decade. In five parts: metropolitan development trends and welfare implications; models of location and spatial interaction, particularly land use and transportation; local public services; housing markets and policies; and urban land-use control. The editors are Professors of Economics at the University of Houston and the University of Maryland, respectively. Name and subject indices.

MOHAN, RAKESH. *Urban economic and planning models: Assessing the potential for cities in developing countries.* World Bank Staff Occasional Papers, no. 25. Baltimore and London: Johns Hopkins University Press for the World Bank, 1979. Pp. xii, 180. $6.95, paper. *JEL 79–0853*

Surveys basic approaches to modelling urban phenomena such as transport, residential and industrial location, and employment, particularly as adapted to cities in developing countries. Discusses analytic (or explanatory) models based on economic theory and operational (or policy-oriented) models based on entropy maximization techniques or on behavioral simulation. Selects four examples—two operational and two analytical—which he considers fruitful in developing countries: the Andersson-Lundquist Stockholm Model, the Urban Institute housing model, the residential model used by Patricia Apps, and a model used by William C. Wheaton. The author is an economist at the World Bank. Bibliography; author index.

See also: Book Numbers *JEL 79–0722, 79–0733, 79–0829, 79–0854*

940 Regional Economics

DANIELS, P. W., ed. *Spatial patterns of office growth and location.* Chichester, England, New York, Brisbane and Toronto: Wiley, 1979. Pp. xxiii, 414. $33.95. *JEL 79-0854*

Fourteen papers by some of the principal practitioners in office location studies from Sweden, Britain, Ireland, the United States, and Canada. Focus is on specific issues and problems related to office location, for example the balance of interaction between internal and external activities, relationships between plants and headquarters, the role of impact of communications in location decisions, and factors in office relocation, including how it is integrated into urban and regional policies. The editor, Lecturer in the Department of Geography, University of Liverpool, prepared the introduction and an article on office dispersal in Greater London. Index.

[LÖSCH, AUGUST.] *The analysis of regional structure: Essays in honour of August Lösch.* Edited by R. FUNCK AND J. B. PARR. Karlsruhe Papers in Regional Science, no. 2. London: Pion; distributed by Academic Press, London and New York, 1978. Paper. *JEL 79-0855*

Twelve previously unpublished essays by economists and regional experts on the spatial structure of economic regions, written in honor of regional economist August Lösch (1906–45). Addressing the kinds of problems Lösch studied, the papers are in three parts: spatial structure and its determinants and alternatives; regional structures where the major components are supply points or central places; and economic interrelations among regions. Includes a list of Lösch's major scientific works, which includes his work in population analysis and money and banking. The editors are at the University of Karlsruhe and the University of Glasgow, respectively. No index.

Related Disciplines

CLOSE, ARTHUR C. AND COLGATE, CRAIG, JR., eds. *Washington representatives, 1979: A compilation of Washington representatives of the major national associations, labor unions and U.S. companies, registered foreign agents, lobbyists, lawyers, law firms and special interest groups, together with their clients and areas of legislative and regulatory concern.* Volume 3. Washington, D.C.: Columbia Books, 1979. Pp. 395. $30.00, paper. *JEL 79-0856*

Directory of approximately 6000 individuals representing special interest groups as well as 4000 firms and organizations that have representatives in Washington. Includes representatives from American and foreign business and trade and professional organizations. Data taken from official public sources and questionnaires. Selected subjects and foreign interests indices.

CRANE, RHONDA J. *The politics of international standards: France and the color TV war.* Communication and Information Science Series. Norwood, N.J.: ABLEX, 1979. Pp. xvii, 123. $14.95. *JEL 79-0857*

Study by a political scientist of the adoption of color television standards in France, stressing that technical standards may function as a nontariff device. Discusses the politics of protectionism, the historical and technical factors affecting color TV operations, and the French policy used in creating the color television industry. Also examines the French system of color television, SECAM *(Séquential à Mémoire)*, its development for the export market, and the use of technical standards as a nontariff devise for industry protection. Finds in part that: (1) "the chances for a government to succeed in developing an industry in the private sector are increased by limiting opportunities in the development process for factors over which the government has no control"; and (2) technical standards can be used to create an industry. Based on the author's Ph.D. dissertation in Political Science at the Massachusetts Institute of Technology. The author is a supervisor of corporate planning for AT&T. Bibliography; name and subject indices.

DOMÍNGUEZ, JORGE I., *et al. Enhancing global human rights.* Introduction by RICHARD H. ULLMAN. 1980s Project/Council on Foreign Relations. New York, London and Montreal: McGraw-Hill, 1979. Pp. xi, 270. $6.95. *JEL 79-0858*

Five previously unpublished essays by foreign relations experts on three aspects of human rights issues: the definition of human rights and the problem of devising indicators of violations; the issue of who should do the monitoring and how; and the problem of causing violating governments to modify their behavior. Richard H. Ullman looks at the overall aspects; Jorge I. Domínguez assesses human rights conditions; Nigel S. Rodley considers the monitoring of violations in the next decade; Bryce Wood writes on human rights issues in Latin America; and Richard Falk discusses the response to severe violations. Little economic content. Selected bibliography; index.

GELB, LESLIE H. AND BETTS, RICHARD K. *The irony of Vietnam: The system worked.* Washington, D.C.: Brookings Institution, 1979. Pp. xi, 387. $14.95, cloth; $5.95, paper. *JEL 79-0859*

A history and analysis of the decision-making process in the United States from World War II

to 1968 that produced the steady escalation of American involvement in Vietnam. Based largely on the Pentagon Papers and declassified White House files, part one is a chronological discussion of "Decisions: Getting into Vietnam"; parts two through four are conceptual analyses of "Goals," "Means," and "Perceptions"; and part five discusses "The Lessons of Vietnam." The central argument is that, despite the failure of foreign policy, "the *domestic decision-making system* worked," in that the core consensual goal was pursued consistently, all views were considered, and important decisions made realistically. Hence the sardonic subtitle. The authors are Director of Politico-Military Affairs in the Department of State and a Brookings Research Associate, respectively. Index.

KRIPPENDORFF, KLAUS, ed. *Communication and control in society.* New York; London and Paris: Gordon and Breach, 1979. Pp. xiii, 529. $43.00. *JEL 79-0860*

Thirty-two previously unpublished papers by American and Canadian social scientists, economists, engineers, and biologists on cybernetics and control processes in society. Papers evolved from a conference organized by the American Society for Cybernetics and the University of Pennsylvania's Annenberg School of Communications, College of Engineering and Applied Science, and the Wharton School. Material organized under eight headings: Philosophical Aspects of Cybernetics; Cybernetic Data Analysis; Incentives and Informational Control; Towards Social Control Theory; On Large Social Systems; On Small Human Systems; Knowledge Structures in Society; and Implications for Policy. The editor is Associate Professor of Communications, University of Pennsylvania. No index.

LAUTZ, TERRY E., ed. *Asia: Half the human race. A viewer's guide.* With *Asia, yesterday and today.* By FAY WILLEY. New York: Council on International and Public Affairs in Cooperation with the China Council of the Asia Society; distributed by Learning Resources in International Studies, New York, 1979. Pp. 105. $3.50, paper. *JEL 79-0861*

A handbook designed for use with the 1979 CBS Summer Semester television series, consisting of lectures by and interviews with expert guests. Part one includes brief introductions to each of the 30 programs and suggestions for discussion questions and further reading. Part two, written by Fay Willey of Newsweek, sketches the history and current political, social, and economic trends for 18 Asian countries. No index.

LEFEVER, ERNEST W. *Nuclear arms in the Third World: U.S. policy dilemma.* Washington, D.C.: Brookings Institution, 1979. Pp. xii, 154. $9.95, cloth; $3.95, paper. *JEL 79-0862*

Study of the short- and long-range effects of any new Third World nuclear force on regional balance and Soviet/American military balance. Assesses the policy position of South Korea, Taiwan, Egypt, Pakistan, and Iran and considers what the United States alone or in concert with the others should do to delay proliferation. Also examines several of the tools now used for deterrence, including the nonproliferation treaty, nuclear-free zones, and others. Covers events through March 1978. Finds in part that it is unlikely that the U.S. will be directly threatened by a Third World nuclear force before the year 2000 and that the best policy would be for the U.S. to offer security to neighbors of new nuclear states, which would include a pledge of military action if the allied state suffered nuclear attack. No economic content. The author is Director of the Ethics and Public Policy Center of Georgetown University. Index.

LONG, NORMAN AND ROBERTS, BRYAN R., eds. *Peasant cooperation and capitalist expansion in central Peru.* Latin American Monographs, no. 46. Austin: University of Texas, Institute of Latin American Studies; distributed by University of Texas Press, 1978. Pp. xii, 349. *JEL 79-0863*

Ten previously unpublished case studies by British and Latin American social anthropologists and sociologists, analyzing the different manners in which peasants in economically diversified areas in the central highlands of Peru "have cooperated in the face of major economic and political transformations." Two studies deal with the agrarian structure of the area at the beginning of the twentieth century; the next four examine changes following development of the mining economy in one area and plantations in another; the final chapter deals with agrarian reform, 1968–75. Transformations include the development of small-scale commercial farming, wage labor, migration, and more extensive contact with the national economy and politics. The research was directed by the editors and carried out in the Mantaro region of Peru from August 1970 until December 1972. The editors are Reader in Anthropology at the University of Durham and Reader in Sociology at the University of Manchester, both in the United Kingdom. Bibliography; index.

REISMAN, W. MICHAEL. *Folded lies: Bribery, crusades, and reforms.* New York: Macmillan, Free Press; London: Collier Macmillan, 1979. Pp. ix, 277. $12.95. *JEL 79-0864*

Legal study of the interrelations of the "myth system" (the rights and wrongs of behavior) and the operational code (when, how, and by whom certain wrong things may be done) as they pertain to bribery. Examines bribery in systems of merchants, representative government, and the nation-state and the particulars of transaction, variance, and outright purchase bribes. Also considers the campaigns against bribery. Argues that "under the complex of codes with which we operate, bribes, understood as *improper* payments, may sometimes be deemed lawful." The author is Professor of Law at the Yale Law School. Bibliography; index.

ROSE, MICHAEL. *Servants of post-industrial power? Sociologie du travail in modern France.* White Plains, N.Y.: Sharpe, 1979. Pp. xvii, 226. $22.50. *JEL 79-0865*

While sketching the social and political history of postwar France, the author also examines the ideological affinities and substantive variations in theory made by the leading contributors to a French branch of sociological inquiry called *sociologie du travail*—Georges Friedman, Michel Crozier, Alain Touraine, and Serge Mallet, and others—during the period 1945 to the late 1960's. Also critically considers the work of the new generation of French industrial sociologists. The author is Lecturer at the School of Humanities and Social Sciences and Associate Fellow at the Centre for European Industrial Studies at the University of Bath. Further reading; index.

SIMON, RITA J., ed. *Research in law and sociology: An annual compilation of research.* Volume 1. Greenwich, Conn.: JAI Press, 1978, Pp. xiii, 318. $27.50, institutions; $14.50, individuals. *JEL 79-0866*

Fourteen previously unpublished essays by 20 law professors, political scientists, psychologists, historians, and sociologists examining the relationships among the law, social institutions, values, and public opinion. Four essays (in addition to comments) constitute a debate on the function and significance of law in developing countries; the second section contains essays that address substantive issues of criminal law. The third section deals with methodological problems, and the final section stresses the interaction between written law and social practice. This volume is the first in a proposed annual series. No index.

NEW JOURNALS

American Politics Quarterly

Published quarterly and devoted to research in American government, including urban, state, and national politics. The April 1979 issue (volume 7, no. 2) includes seven papers on: party preferences, the impact of unemployment on congressional elections, caucuses and primaries, presidential nominations and coalition theory, ambitions and voting in the senate, trust and political behavior, and independents and the decline of party. Annual subscription rates: $28.00 institutional, $15.00 individual; add $1.00 for subscriptions outside U.S. Write to: Sage Publications, Inc., 275 South Beverly Drive, Beverly Hills, CA 90212.

Asian Development Dialogue

Interdisciplinary review published by the United Nations Centre for Regional Development, designed to promote a greater understanding of regional planning and development and related fields, particularly as it applies to developing Asian and Pacific countries. Encourages contributions examining regional development planning concepts, methods, and procedures, as well as empirical studies and those having public policy relevance. Contents of this issue (nos. 5 & 6, 1977) include: "Methods of Planning for Comprehensive Regional Development: A Paradigm" by Haruo Nagamine; "Measurement of Basic Minimum Needs" by the United Nations Secretariat; "An International Review on the Methods of Macro-Framework Building for Comprehensive Regional Development" by Bohdan Gruchman; an annotated listing of new books; and a listing of selected periodicals received on exchange. Subscription information should be requested from publications section, United Nations Centre for Regional Development, Marunouchi 2-4-7, Naka-ku, Nagoya 460, Japan.

Energy Economics

New quarterly publication of IPC Science and Technology Press Ltd., which provides a forum for material related to the application of economic theory, methodology, and statistical and simulation models to energy issues. The first issue (January 1979) includes seven papers on: drawdown patterns for oil reserves; agricultural electrical demand in the U.S.; the U.S. market for steam coal; oil consumption decline in the U.S. in 1974-75; North Sea oil taxation in Norway; benefits from innovation; and nuclear reactor strategy optimization under uncertainty. Also includes book reviews and notes on related conferences. Annual subscription rates: for Britian, £40.00; for the U.S., $104.00; single issues: £10.00 and $26.00 respectively. Write to: IPC Business Press Ltd., Oakfield House, Perrymount Road, Haywards Heath, Sussex, England RH16 3DH.

International Migration Review

Quarterly publication of the Center for Migration Studies of New York, Inc., devoted to the sociological, demographic, historical, and legislative aspects of human population movements. The issue at hand (volume 12, number 4, Winter 1978) includes five articles on illegal immigration: "Toward a Structural Analysis of Illegal (Undocumented) Immigration"(Alejandro Portes), adaptation of Mexican immigrants bound for the U.S. (Ina R. Dinerman), the relation between Mexico's development pattern and its international migration (Francisco Alba), the demand for immigrant workers (J. Craig Jenkins), and Mexican immigration and U.S. policy in historical perspective (Robert L. Bach). Also includes book reviews and some related notes on legislation and documentation. Subscription rates: $14.50 for one year, $28.00 for two years, and $41.50 for three years for individuals; institutional rates are $19.50, $38,00, and $56.50 respectively. Write to: Center for Migration Studies, 209 Flagg Place, Staten Island, N.Y. 10304.

The History of Economics Society Bulletin

New semiannual publication of History of Economics Society (HES) designed as a "regular publication to keep track of all the activities both of the Society and of its members." Volume 1, Issue 1 (Winter 1979) includes a report on the recent HES meeting held at the University of Toronto; announcements of other meetings of interest to Society members; excerpts from an article on the Jacob H. Hollander Library, the University of Illinois, Urbana-Champaign; a report on Charles Babbage and monopoly theory; and a note on computerized text processing. Institutional subscription rate: $5.00 per year; free to members. For more information, write to James L. Cochrane, Secretary-Treasurer, History of Economics Society, Department of Economics, University of South Carolina, Columbia, SC 29208.

Journal of Accounting and Economics

Issued three times a year, this journal will be devoted to studies on the application of economic theory to the explanation of accounting phenomena. Contains articles using various methodologies, including mathematical models and empirical studies. The journal's initial issue (March 1979) includes three papers: Daniel W. Collins and Warren T. Dent on the proposed elimination of full cost accounting in the petroleum industry, Thomas R. Dyckman and Abbie J. Smith on financial accounting and reporting by oil and gas companies, and Robert E. Verrechia on the theory of market information efficiency. Annual subscription rates: Dfl.115.00 for institutions; Dfl.55.00 for private subscribers (which must be prepaid). Write to: North-Holland Publishing Company, Journal Division, P. O. Box 211, Amsterdam, The Netherlands.

The Journal of Business

Issued twice yearly by the Division of Business Research, Seton Hall University, and dedicated to research on problems confronting business. The December 1978 issue includes four papers: George A. Prendergast on leverage as an equity profit determinant in food distribution; Carlton A. Maile on retailing applications of a marketing decision model; David Gordon and E. Edward Blevins on new product development; and Sak Onkvisit and John J. Shaw on consumer concerns, both foreign and domestic, towards American business. Annual subscription rate: $5.00. Write to: Joan Driver, Corresponding Secretary, *Journal of Business*, W. Paul Stillman School of Business, Seton Hall University, South Orange, N.J. 07079.

Journal of Contemporary Business

Quarterly publication of the Graduate School of Business Administration of the University of Washington, which devotes each issue to a single topical theme in contemporary business. Volume 7, number 4, focuses on reducing consumer demand for hazardous products with information, containing articles on public and private information systems, consumer policy, advertising impact, product labeling, and product marketing and demarketing. Subscription rates: $12.00 for one year and $32.00 for three years for the U.S. and Canada; $13.00 and $35.00, respectively, for other areas; single issues are $4.00. Write to: *Journal of Contemporary Business*, Graduate School of Business Administration DJ-10, University of Washington, Seattle, WA 98195.

Journal of Economic Dynamics and Control

New quarterly publication devoted to theoretical and applications papers on economic dynamics and control. As an example, the February 1979 issue (volume 1, no. 1) includes six papers on perturbation and robustness of a closed macro model; stabilization policy for the U.S. feed grain and livestock markets; optimal monetary policy under uncertainty; optimal monetary policy under flexible exchange rates; the report of the Committee on Policy Optimisation plus a review of that report. Annual subscription rates: Dfl.135.00 for institutions and Dfl. 65.00 for personal use; the latter must be prepaid. Write to: North-Holland Publishing Company, Journal Division, P. O. Box 211, Amsterdam, The Netherlands.

Journal of Macroeconomics

New quarterly journal that focuses on theoretical and applied articles on macroeconomic theory, policy, and related empirical work. The first issue (Winter 1979) contains ten papers on: labor contracts and monetary policy; real purchasing power in the neoclassical monetary growth model; alternative neutral monetary policies; the relation between the forward rate and the interest parity; wage stickiness; deficit financing; bond-financed fiscal policy and instrument instability; "crowding out" in *IS-LM* model; money disillusion and stagflation; and the usefulness of the new Composite Index of Leading Indicators. Subscription rates: $16.00 for one year, $29.00 for two years, and $43.00 for three years for individuals; institutional rates are $22.00, $39.00, and $58.00 respectively. Write to: Wayne State University Press, 5959 Woodward Avenue, Detroit, MI 48202.

Literature of Liberty

New quarterly publication of the Cato Institute of San Francisco devoted to the interdisciplinary study of social and political thought. Each issue will include a bibliographical essay and over 100 summaries of articles clarifying liberty in the disciplines of philosophy, political science, law, economics, history, psychology, sociology, anthropology, education, and the humanities. The survey article in volume 1, no. 2 (April/June 1978) is on social change during the American War for Independence, by William Marina. Annual subscription rate: $16.00; single issue $4.00; overseas rates are $20.00 for surface mail and $34.00 for airmail. Write to: *Literature of Liberty*, Cato Institute, 1700 Montgomery Street, San Francisco, CA 94111.

Louisiana Business Review

Public document for citizens of Louisiana, published monthly by the Division of Research, College of Business Administration, Louisiana State University. The March 1977 issue (volume 43, no. 3) includes a list of federal, state, and local sources vital for Louisiana businesses, a comment on the up-coming (June 1979) Mid South Executive Development Program, and an economic summary report for the state. Also includes some information on tourist traffic and sales tax collection. For information, write to: Louisiana Business Review, Division of Research, College of Business Administration, Louisiana State University, Baton Rouge, LA 70803.

The Philippine Review of Business and Economics

Published quarterly by the College of Business Administration and the School of Economics, University of the Philippines, and designed as a vehicle for publication of research done at the University or by outside contributors, related to Philippine economic and business conditions. The issue at hand (volume XV, no. 2, June 1978) includes six articles on protection and processing of primary products, Philippine industrial capital utilization, the Kumpadre System and industrial relations, the spatial pattern of Philippine manufacturing, industrial decentralization in Peninsular Malaysia, and the regional structure of Philippine manufacturing since 1948. Annual subscriptions: domestic, P80; foreign U.S. $20,00; single copies, P30 and U.S. $7.50 respectively. Write to: Editor, *Philippine Review of Business and Economics*, College of Business Administration, University of the Philippines, Diliman, Quezon City, Philippines 3004.

Political Science

Quarterly publication of the American Political Science Association containing Association news and articles of professional concern. Included in APSA membership, the dues of which is progressive with income. Write to: The Editor, *Political Science*, American Political Science Association, 1527 New Hampshire Avenue, N.W., Washington, D.C. 20036.

Rajasthan Economic Journal

New semi-annual publication of the Rajasthan Economic Association that aims at highlighting research on the economy of Rajasthan, India. The journal's first issue (volume 1, number 1, January 1977) includes nine papers on demand for money in India, the tax system, urban growth, the demand for eggs, stability of exports in India, declining productivity in high-yield varieties, regional tax structure, and expenditure elasticities. Annual subscription rates: Rs. 12.00 for individuals, Rs. 7.50 for students; single copies are Rs. 6.00. Write to: Chief Editor, Department of Economics, University of Rajasthan, Jaipur, India 302 004.

Third World Quarterly

Interdisciplinary journal containing papers of relevance to Third World nations, published quarterly by the Third World Foundation. Volume 1, number 1 (January 1979) includes what will be a regular feature, an essay on the North–South dialogue, plus seven other papers: Sir Arthur Lewis on LDC's and stable exchange rates; Ali A. Mazrui on the role of churches and MNC's in the spread of education; Jahangir Amuzegar on North–South relations; Samir Amin on the use of surpluses in the New International Economic Order; Mark

Blaug on the economics of education in LDC's; Allen V. Kneese on development and the environment; and Altaf Gauhar on the final days of a United Pakistan. Also includes a forum, several book reviews, and some book notes. Annual subscription rates: $24.00 for institutions and $20.00 for individuals. Write to: New Zealand House, 80 Haymarket, London SW2Y 4TS.

United Nations Library, Monthly Bibliography—Part II

Current information on selected periodical literature and articles in collected works on subjects of international social scientific interest. Represents a selection from approximately 3,500 titles. Material is organized into six sections: articles concerning the U.N. and other international organizations; questions of international politics; comparative and international law; social and cultural questions; economics; and science and technology. *Part I*, published separately, treats books, official documents, and new serial titles. Up to 1977, *Part II* was known as the *Monthly List of Selected Articles*. Annual subscription is $12.00, post free. Subscriptions available through United Nations, Sales Section, New York or Geneva.

Urbanism Past and Present

Semiannual journal of the University of Wisconsin–Milwaukee's College of Letters and Science, dedicated to exchange on theories and techniques used for studying the development of modern cities. The Winter 1978–79 (Number 7) issue is devoted to city planning and European urban policies and includes papers on relocation planning (Morris Sweet), rural poverty and urban development in recent Spanish history (Howard Weiner), and French conservation planning (Roger Kain). Also includes several comments, research notes, and other related news. Individual subscriptions: $5.00, one year; $9.00, two years; and $12.50, three years; institutional rates $10,00, $18.00, and $25.00, respectively. Write to: The University of Wisconsin–Milwaukee, *Urbanism Past and Present*, Department of History, P. O. Box 413, Milwaukee, Wisconsin 53201.

Editor's Note

The following persons assisted the editors in annotating these books: Mrs. Velma Hirsch, Mr. Michael S. Miller, and Mr. Serif Ulusoy (University of Pittsburgh); Dr. Patrick Litzinger (Robert Morris College); and Mr. Chandler Stolp (Carnegie-Mellon University).

Professor Asatoshi Maeshiro and Mr. Serif Ulusoy (University of Pittsburgh) assisted the editors in classifying the following articles.

Contents of Current Periodicals

Abstracts of articles marked thus • appear in this issue. See the *Index of Authors of Articles in the Subject Index* for page numbers, in *italics.*

- **Fleisher, B. M. and Rhodes, G. F., Jr.** Fertility, Women's Wage Rates, and Labor Supply.
- **Garbade, K. D.; Pomrenze, J. L. and Silber, W. L.** On the Information Content of Prices.

Goss, B. A. The Supply of Storage: Stein vs. Snape.

- **Greenhut, M. L. and Ohta, H.** Vertical Integration of Successive Oligopolists.

Haskell, T. L. Explaining the Relative Efficiency of Slave Agriculture in the Antebellum South: A Reply to Fogel-Engerman.

Helpman, E. and Sadka, E. Optimal Financing of the Government's Budget: Taxes, Bonds, or Money?

- **Hulten, C. R.** On the "Importance" of Productivity Change.
- **Intriligator, M. D.** Income Redistribution: A Probabilistic Approach.

Koopmans, T. C. Economics among the Sciences.

Lewis, T. R.; Matthews, S. A. and Burness, H. S. Monopoly and the Rate of Extraction of Exhaustible Resources: Note.

Peles, Y. C. and Stein, J. L. On Regulation and Uncertainty: Reply.

Pencavel, J. H. Constant-Utility Index Numbers of Real Wages: Revised Estimates.

Rau, N. On Regulation and Uncertainty: Comment.

- **Raviv, A.** The Design of an Optimal Insurance Policy.

Reece, W. S. Charitable Contributions: New Evidence on Household Behavior.

Rodriguez, C. A. Short- and Long-Run Effects of Monetary and Fiscal Policies under Flexible Exchange Rates and Perfect Capital Mobility.

- **Salop, S. C.** A Model of the Natural Rate of Unemployment.

Schaefer, D. F. and Schmitz, M. D. The Relative Efficiency of Slave Agriculture: A Comment.

Soladay, J. J. Monopoly and Crude Oil Extraction.

Tullock, G. Monopoly and the Rate of Extraction of Exhaustible Resources: Note.

Wright, G. The Efficiency of Slavery: Another Interpretation.

- **Wu, S. Y.** An Essay on Monopoly Power and Stable Price Policy.

Yaniv, G. Labor Supply under Uncertainty: Note.

American Economic Review, Vol. 69, No. 2, May 1979

Adams, F. G.; Behrman, J. R. and Roldan, R. A. Measuring the Impact of Primary Commodity Fluctuations on Economic Development: Coffee and Brazil.

Adams, A. V. Who's in the Labor Force: A Simple Counting Problem?

Anderson, C. E. Hospital Production—Can Costs be Contained?

Askari, H.; Cummings, J. T. and Richter, G. Efficiency of *LDC* Trading Patterns: The Case of Iran.

Ault, D. E.; Rutman, G. L. and Stevenson, T. Mobility in the Labor Market for Academic Economists.

Barro, R. J. Second Thoughts on Keynesian Economics.

Bennett, C. T. F. The Social Security Benefit Structure: Equity Considerations of the Family as Its Basis.

Bigman, D. and Reutlinger, S. National and International Policies toward Food Security and Price Stabilization.

Bishop, J. and Haveman, R. Selective Employment Subsidies: Can Okun's Law be Repealed?

Blanchard, O. J. Backward and Forward Solutions for Economies with Rational Expectations.

Calvo, G. Quasi-Walrasian Theories of Unemployment.

Cargill, T. F. and Meyer, R. A. Stability of the Demand Function for Money: An Unresolved Issue.

Chandler, C. A. and David, W. L. Alternative Economic Policies for the Revitalization of U.S. Central Cities.

Copes, P. The Economics of Marine Fisheries Management in the Era of Extended Jurisdiction: The Canadian Perspective.

Corbo, V. and Meller, P. Trade and Employment: Chile in the 1960's.

Crutchfield, J. A. Marine Resources: The Economics of U.S. Ocean Policy.

Desai, P. The Productivity of Foreign Resource Inflow to the Soviet Economy.

Dolde, W. Temporary Taxes as Macro-Economic Stabilizers.

Ehrenberg, R. G. Retirement Policies, Employment, and Unemployment.

Fair, R. C. On Modeling the Effects of Government Policies.

Findlay, R. Economic Development and the Theory of International Trade.

Garcia, G. and Pak, S. Some Clues in the Case of the Missing Money.

Gardner, B. Robust Stabilization Policies for International Commodity Agreements.

Gilroy, C. Counting the Labor Force with the *Current Population Survey.*

Gramlich, E. M. Stimulating the Macro Economy through State and Local Governments.

Grossman, H. I. Why Does Aggregate Employment Fluctuate?

Henderson, D. W. Financial Policies in Open Economies.

Holzman, F. D. Some Systemic Factors Contributing to the Convertible Currency Shortages of Centrally Planned Economies.
Howitt, P. Evaluating the Non-Market-Clearing Approach.
Johnson, G. E. and Blakemore, A. The Potential Impact of Employment Policy on the Unemployment Rate Consistent with Nonaccelerating Inflation.
Johnson, T. Research on Economic Education: How Well Is It Answering the Questions Asked?
Kaczynski, V. The Economics of the Eastern Bloc Ocean Policy.
Kahn, A. E. Applications of Economics to an Imperfect World.
Kearl, J. R., et al. A Confusion of Economists?
Lieberman, C. Structural and Technological Change in Money Demand.
Manser, M. E. Comparing Households with Different Structures: The Problem of Equity.
McCallum, B. T. The Current State of the Policy-Ineffectiveness Debate.
Mead, W. J. The Performance of Government in Energy Regulations.
Myers, S. L., Jr. and Phillips, K. E. Housing Segregation and Black Employment: Another Look at the Ghetto Disperal Strategy.
Nichols, D. A. Comparing *TIP* to Wage Subsidies.
Özatalay, S.; Grubaugh, S. and Long, T. V., II. Energy Substitution and National Energy Policy.
Panzar, J. C. Equilibrium and Welfare in Unregulated Airline Markets.
Pellechio, A. J. Social Security Financing and Retirement Behavior.
Perloff, J. M. and Wachter, M. L. The New Jobs Tax Credit: An Evaluation of the 1977–78 Wage Subsidy Program.
Pierce, J. L. A Case for Monetary Reform.
Pindyck, R. S. The Cartelization of World Commodity Markets.
Pollak, R. A. and Wales, T. J. Welfare Comparisons and Equivalence Scales.
Reagan, B. B. Stocks and Flows of Academic Economists.
Reinhardt, U. E. Medicare: Its Financing and Future.
Riley, J. G. Noncooperative Equilibrium and Market Signalling.
Robertson, A. H. The Outlook for Social Security.
Ross, S. A. Equilibrium and Agency—Inadmissible Agents in the Public Agency Problem.
Salop, S. C. Strategic Entry Deterrence.
Schipper, L. Another Look at Energy Conservation.
Scott, C. E. The Market for Ph.D. Economists: The Academic Sector.
Seidman, L. S. The Role of a Tax-Based Incomes Policy.
Slitor, R. E. Implementation and Design of Tax-Based Incomes Policies.
Stiglitz, J. E. Equilibrium in Product Markets with Imperfect Information.
Taylor, J. B. Staggered Wage Setting in a Macro Model.
Van de Water, P. N. Disability Insurance.
Weisbrod, B. A. Research on Economic Education: Is It Asking the Right Questions?
Werneke, D. Measuring Economic Hardship in the Labor Market.
Wilkinson, M. The Economics of the Oceans: Environment, Issues, and Economic Analysis.
Willig, R. D. and Bailey, E. E. The Economic Gradient Method.
Willig, R. D. Multiproduct Technology and Market Structure.
Wilson, C. A. Equilibrium and Adverse Selection.
Yokell, M. D. The Role of the Government in Subsidizing Solar Energy.

American Historical Review, Vol. 84, No. 1, February 1979

Najemy, J. M. Guild Republicanism in Trecento Florence: The Successes and Ultimate Failure of Corporate Politics.

American Journal of Agricultural Economics, Vol. 61, No. 1, February 1979

Abbott, P. C. The Role of Government Interference in International Commodity Trade Models.
• **Abbott, P. C.** Modeling International Grain Trade with Government Controlled Markets.
• **Bardhan, P. K.** Agricultural Development and Land Tenancy in a Peasant Economy: A Theoretical and Empirical Analysis.
Blandford, D. and Lee, S. Quantitative Evaluation of Stabilization Policies in International Commodity Markets.
Boehlje, M.; Harris, D. G. and Hoskins, J. A Modeling Approach to Flows of Funds in Localized Financial Markets.
Bredahl, M. E.; Meyers, W. H. and Collins, K. J. The Elasticity of Foreign Demand for U.S. Agricultural Products: The Importance of the Price Transmission Elasticity.
Castle, E. N. Property Rights and the Political Economy of Resource Scarcity: Reply.
• **Doran, M. H.; Low, A. R. C. and Kemp, R. L.** Cattle as a Store of Wealth in Swaziland: Implications for Livestock Development and Overgrazing in Eastern and Southern Africa.
Duncan, M. Financial Markets for Agriculture: Discussion.

Feder, G. Pesticides, Information, and Pest Management under Uncertainty.
Folsom, J. M. Competition and Regulation in the Food Industry: Discussion.
Hallberg, M. C. and Kriebel, W. R. A Routing Algorithm Using the Nearest-Neighbor Concept.
Herr, W. M. Financial Markets for Agriculture: Discussion.
Huang, W. A Framework for Economic Analysis of Livestock and Crop Byproducts Utilization.
Johnson, P. R.; Grennes, T. and Thursby, M. Trade Models with Differentiated Products.
Khan, M. H. and Maki, D. R. Effects of Farm Size on Economic Efficiency: The Case of Pakistan.
Knutson, M. and Tweeten, L. G. Toward an Optimal Rate of Growth in Agricultural Production Research and Extension.
Labys, W. C. International Commodity Markets and Trade: Discussion.
• **Ladd, G. W.** Artistic Research Tools for Scientific Minds.
Lindley, J. T. and Wiseman, P. A. Some Fiscal Impacts of Farmers Home Administration Home Loan Activity on a Rural County.
Marion, B. W. Government Regulation of Competition in the Food Industry.
Myers, L. H. Competition and Regulation in the Food Industry: Discussion.
Ortego, A. J., Jr. Competition and Regulation in the Food Industry: Discussion.
Paul, A. B. Some Basic Problems of Research into Competition in Agricultural Markets.
Penson, J. B., Jr. and Hughes, D. W. Incorporation of General Economic Outcomes in Econometric Projections Models for Agriculture.
• **Peterson, W. L.** International Farm Prices and the Social Cost of Cheap Food Policies.
Robison, L. J. and Brake, J. R. Application of Portfolio Theory to Farmer and Lender Behavior.
Sander, W. Property Rights and the Political Economy of Resource Scarcity: Comment.
Stern, R. M. International Commodity Markets and Trade: Discussion.
Stevenson, R. Graduate Students from Less Developed Countries: The Continuing Demand for U.S. Training.
Stewart, F. J.; Hall, H. H. and Smith, E. D. Potential for Increased Income on Small Farms in Appalachian Kentucky.
• **Taylor, C. R. and Talpaz, H.** Approximately Optimal Carryover Levels for Wheat in the United States.
Trapp, J. N. An Economic Evaluation of Alternative Peanut Policies: Comment.
Wolgin, J. M. Resource Allocation and Risk: A Case Study of Small-holder Agriculture in Kenya: Reply.
Young, D. L. Resource Allocation and Risk: A Case Study of Smallholder Agriculture in Kenya: Comment.

American Journal of Economics and Sociology, Vol. 38, No. 2, April 1979

Berczi, A. Chamberlin's Experimental Markets Revisited: A Computerized Journey.
Candeloro, D. The Single Tax Movement and Progressivism, 1880–1920.
Junker, L. Genuine or Spurious Institutionalism? Veblen and Ayres Seen from a Neo-Classical Perspective Raises the Question.
Koenig, T.; Gogel, R. and Sonquist, J. Models of the Significance of Interlocking Corporate Directorates.
Liu, B. The Costs of Air Quality Deterioration and Benefits of Air Pollution Control: Estimates of Mortality Costs for Two Pollutants in 40 U.S. Metropolitan Areas.
Long, F. Ragnar Frisch: Econometrics and the Political Economy of Planning.
Mikesell, J. L. General Property Reassessment: Relative Tax Impacts on Land and on Structures.
Spellman, W. E. The Economics of Edward Alsworth Ross.
Zinam, O. The Roles of Equilibrium, Optimality, Maximization and Discontent in Decision-Making Processes.

Annals of the American Academy of Political and Social Science, Vol. 441, January 1979

Farley, R.; Bianchi, S. and Colasanto, D. Barriers to the Racial Integration of Neighborhoods: The Detroit Case.
Hershberg, T., et al. A Tale of Three Cities: Blacks and Immigrants in Philadelphia: 1850–1880, 1930 and 1970.
Kantrowitz, N. Racial and Ethnic Residential Segregation in Boston, 1830–1970.
Lake, R. W. Racial Transition and Black Homeownership in American Suburbs.
Marston, W. G. and Van Valey, T. L. The Role of Residential Segregation in the Assimilation Process.
Mitchell, R. E. and Smith, R. A. Race and Housing: A Review and Comments on the Contents and Effects of Federal Policy.
Pettigrew, T. F. Racial Change and Social Policy.
Roof, W. C. Race and Residence: The Shifting Basis of American Race Relations.
Saltman, J. Housing Discrimination: Policy Research, Methods and Results.
Spain, D. Race Relations and Residential Segre-

gation in New Orleans: Two Centuries of Paradox.

Taeuber, K. E. Housing, Schools, and Incremental Segregative Effects.

Taylor, D. G. Housing, Neighborhoods, and Race Relations: Recent Survey Evidence.

Wilson, F. D. Patterns of White Avoidance.

Annals of the American Academy of Political and Social Science, Vol. 442, March 1979

Deutsch, K. W. and Merritt, R. L. Transnational Communications and the International System.

Grant, J. P. Perspectives on Development Aid: World War II to Today and Beyond.

Kerr, C. Education for Global Perspectives.

McHale, J. and McHale, M. C. Meeting Basic Human Needs.

Roper, B. W. The Limits of Public Support.

Annals of Public and Co-operative Economy, Vol. 49, No. 2, April–June 1978

Fletcher, S. The Model and Implementation Strategy of Labor Enterprises in Costa Rica.

Jones, D. C. Producer Cooperatives in Industrialized Western Economies: An Overview.

Kahyat, M. Note on Self-Management and Uncertainty.

Pestieau, P. and Quaden, G. Self-Management and Co-operation: General Presentation.

Steinherr, A. The Labor-Managed Economy: A Survey of the Economics Literature.

Svejnar, J. Workers' Participation in Management in Czechoslovakia.

Vanek, J. and Reinert, E. President Velasco's Third Way: A Strategy for Change.

Annals of Public and Co-operative Economy, Vol. 49, No. 3–4, July–December 1978

Briganti, W. Co-operative Enterprises in a Market Economy.

Heurtebise, A. The Place of Public Enterprises in the Economy.

Lappas, A. Trade Union Enterprises in a Market Economy.

Pesmazoglu, I. Institutions of Public and Co-operative Economy in a Modern Market Economy.

Quaden, G. The Institutions of Public and Co-operative Economy in a Market Economy: Closing Meeting: Summing-up of Proceedings.

Antitrust Bulletin, Vol. 23, No. 4, Winter 1978

Backman, J. New Role for Economists—The United States Lines Case.

Fraser, D. R. Holding Company Affiliation and Commercial Bank Market Share.

Horowitz, I. The Implications of Home Box Office for Sports Broadcasts.

Joelson, M. R. United States Law and the Proposed Code of Conduct on the Transfer of Technology.

Jones, J. C. H. and Davies, D. K. Not Even Semitough: Professional Sport and Canadian Antitrust.

Meehan, J. W., Jr. Rules vs. Discretion: A Reevaluation of the Merger Guidelines for Horizontal Mergers.

Applied Economics, Vol. 11, No. 1, March 1979

Addison, J. and Burton, J. The Identification of Market and Spillover Forces in Wage Inflation: A Cautionary Note.

Cuthbertson, K. Demand Management and the 'New School': A Comment.

Dawson, A. J. The Phillips Curve: An Attempted Identification.

Globerman, S. A Note on Foreign Ownership and Market Structure in the United Kingdom.

Hall, G. C. The Effects of Mergers on the Product-Mix Offered by the Brewing Industry.

Hughes, J. J. and Thirlwall, A. P. Imports and Labour Market Bottlenecks: A Disaggregated Study for the U.K.

Parikh, A. Estimation of Supply Functions for Coffee.

Stafford, L. W. T. and Vaughan, G. D. A Managerial Model of the Investment Decision.

Zabalza, A. From Shortage to Surplus: The Case of School Teachers.

Aussenwirtschaft, Vol. 33, No. 4, December 1978

Bahadir, S. A. Volkswirtschaftliche Kosten und Nutzen des Exports von Arbeitskräften: eine Fallstudie am Beispiel der Türkei.

Schmit, M. Après Lomé I, quelles ambitions pour Lomé II?

Triffin, R. Das Europäische Währungssystem in amerikanischer Sicht.

Australian Economic History Review, Vol. 18, No. 2, September 1978

Butlin, N. G. A Fraternal Farewell: Tribute to S. J. Butlin.

Silberberg, R. Institutional Investors in the Real Estate, Mortgage Market in Victoria in the 1880s.

Tucker, G. S. L. The Political Economy of an Anonymous Critic of Malthus' Views on the Necessity of Unproductive Consumption.

Wotherspoon, G. Savings Banks and Social Policy in New South Wales, 1832–71.

Australian Economic Papers, Vol. 17, No. 31, December 1978

• **Breusch, T. S.** Testing for Autocorrelation in Dynamic Linear Models.

Haig, B. D. and Wood, M. P. Married Women in the Australian Workforce: A Rejoinder.

Hall, A. R. Jam Yesterday, Jam the Day before Yesterday and Jam the Day after Tomorrow.

Hammond, P. J. Voluntary Contracts and Jam in the Far Future.

King, M. L. and Giles, D. E. A. A Comparison of Some Tests for Fourth-Order Autocorrelation.

Long, N. V. Optimal Inter-Regional Movements of Labour: A Theoretical Model.

• **McDonald, I. M.** Microeconomic Motivation and the Kaldorian Theory of the Rate of Profit.

Merrilees, W. J. Married Women in the Labour Force: A Note on Discouraged Workers.

• **Moss, S. J.** The Post-Keynesian Theory of Income Distribution in the Corporate Economy.

Petri, F. The Difference between Long-Period and Short-Period General Equilibrium and the Capital Theory Controversy.

Richards, G. M. Labour's Share in the Value Added of Australian Manufacturing, 1945–46–1967–68.

Round, D. K. Economies of Firm Size: A Note on Their Calculation and Relationship with Concentration.

Russell, E. A. Foreign Investment Policy—What Role for the Economist?

• **Scherer, P. A.** The Perverse Additional Worker Effect in Australia.

• **Shapiro, N.** Keynes and the Equilibrium Economics.

Australian Journal of Agricultural Economics, Vol. 22, No. 2&3, August/December 1978

Anderson, K. On Why Rates of Assistance Differ between Australia's Rural Industries.

Bain, R. A. An Appraisal of a Buffer Fund Scheme for Beef: Comment.

Fisher, B. S. and Tanner, C. In Search of Hunt's Short-Run Price Cycles in the Sydney Wool Futures Market.

Griffiths, W. E. and Anderson, J. R. Specification of Agricultural Supply Functions—Empirical Evidence on Wheat in Southern N.S.W.

Parton, K. A. An Appraisal of a Buffer Fund Scheme for Beef: Reply.

Warr, P. G. The Case against Tariff Compensation.

Australian Journal of Agricultural Economics, Vol. 22, No. 2&3, August/December 1978

Alaouze, C. M.; Sturgess, N. H. and Watson, A. S. Australian Wheat Storage: A Dynamic Programming Approach.

Freebairn, J. W. Pros and Cons of Temporary Industry Assistance.

Hayami, Y., et al. Agricultural Growth against a Land Resource Constraint: The Philippine Experience: Reply.

James, W. E. Agricultural Growth against a Land Resource Constraint: The Philippine Experience: Comment.

Lesueur, J. F. The Impact of Supervised Credit Programs on Technological Change in Developing Agriculture: Comment.

Piggott, R. R. Decomposing the Variance of Gross Revenue into Demand and Supply Components.

Sinden, J. A. Estimation of Consumer's Surplus Values for Land Policies.

Scobie, G. M. and Franklin, D. L. The Impact of Supervised Credit Programs on Technological Change in Developing Countries: Reply.

Australian Journal of Management, Vol. 3, No. 1, April 1978

Allan, R. H. and Valentine, T. J. An Econometric Analysis of Deposit Rates, Security Holdings and Last-Resort Borrowing in the Short-Term Money Market.

Brown, R. L. A Test of the Black and Scholes Model of Option Evaluation in the Australian Options Market.

Chiarella, C. and Hughes, W. R. Option Valuation: Some Empirical Results.

Conybeare, J. Public Policy and the Australian Tariff Structure.

Dowling, G. R. Sex-Role Stereotypes of Women in Australian Magazine Advertising.

Praetz, P. and Wilson, E. J. G. The Distribution of Stock Market Returns: 1958–1973.

Volard, S. V. Project 3P—An Experiment in Industrial Democracy in a Small Firm.

Australian Journal of Management, Vol. 3, No. 2, October 1978

Castagna, A. D. and Matolcsy, Z. P. The Relationship between Accounting Variables and Systematic Risk and the Prediction of Systematic Risk.

Dowell, R. Resources Rent Taxation.

Dowling, G. R. and Midgley, D. F. The Decision Process Models of Antarctic Travel Innovators.

Findlay, C. C. The Cost of Australian Regulation of International Air Travel.

Ohlson, J. A. On the Theory of Residual Analyses and Abnormal Performance Metrics.

Whittred, G. P. The Time Series Behaviour of Corporate Earnings.

Wright, F. K. Minimizing the Costs of Liquidity.

Bancaria, Vol. 34, No. 9, September 1978

Abs, H. J. Problemi monetari ed economici attuali. (Current Monetary and Economic Problems. With English summary.)

Barattieri, V. and Gambale, S. Il nuovo sistema della contabilità pubblica. (The New Public Accounting System in Italy. With English summary.)

Patria, L. and Pontolillo, V. Strutture finanziarie e politica creditizia nello sviluppo del Mezzogiorno. (Financial Structures and Credit Policy in the Development of Southern Italy. With English summary.)

Salanitro, N. I depositi bancari del fallito. (Bank Deposits of Bankrupts. With English summary.)

• **Sarcinelli, M.** Ruolo e limiti della politica monetaria: cosa è cambiato negli ultimi anni. (Role and Boundaries of Monetary Policy: Changes in Recent Years. With English summary.)

Bancaria, Vol. 34, No. 10, October 1978

Cosciani, C. Struttura dei sistemi tributari e loro riforma. (Structure and Reform of Tax Systems. With English summary.)

Elia, A. La banca in una società nuova Tema della XXXI International Banking Summer School. (Banking in a New Society-Theme of the XXXI International Banking Summer School. With English summary.)

Godeaux, J. Autorità e concertazione nel controllo bancario. (Authority and Dialogue in Banking Control. With English summary.)

Karsten, F. Banche e impresse: una collaborazione che comporta una sfida. (Banking and Industry, a Challenging Partnership. With English summary.)

Paladini, R. Relazioni tra copertura e formazione del disavanzo e spesa per interessi. (Relationships between Coverage Formation of the Public Deficit and Interest Costs. With English summary.)

Tugendhat, C. Verso un mercato comune bancario. (Towards a Common Market in Banking. With English summary.)

Bancaria, Vol. 34, No. 11, November 1978

Castiello, F. L'abusivismo bancario. (Banking Improprieties. With English summary.)

• **Magnifico, G. and Saccomanni, F.** Verso un nuovo ruolo del Fondo Monetario Internazionale. (Towards a New Role for the International Monetary Fund. With English summary.)

Marini, L. La nuova disciplina delle banche estere negli Stati Uniti. (The New Regulations Concerning Foreign Banks in the United States. With English summary.)

Saraceno, P. Nuovi assetti introdotti nel nostro sistema economico dalle misure richieste dalla grande crisi 1929–35. (New Features of the Italian Economy Resulting from Measures Necessitated by the Depression of 1929–35. With English summary.)

Tuccimei, E. Risposte federaliste ai problemi europei. (A Federalist Approach to European Affairs. With English summary.)

Bancaria, Vol. 34, No. 12, December 1978

De Mattia, R. L'automazione delle Casse di risparmio e l'automazione interbancaria. (Adoption of Automation by Savings Banks and Interbank Automation. With English summary.)

Falchi, G. and Michelangeli, M. Liquidità internazionale, politiche monetarie e inflazione mondiale. (International Liquidity, Monetary Policies and World Inflation. With English summary.)

Finocchiaro, A. Prospettive dell'attività della Convenzione per i prossimi anni. (Prospects for CIPA Activity in the Coming Years. With English summary.)

Hauge, G. Il mercato internazionale dei capitali ed il sistema monetario internazionale. (The International Capital Market and the International Monetary System. With English summary.)

Hoffmeyer, E. Il mercato internazionale dei capitali ed il sistema monetario internazionale. (The International Capital Market and the International Monetary System. With English summary.)

Monti, I. La collaborazione interbancaria nel campo dell'automazione: esperienze di un grande instituto di credito. (The Role of Interbank Cooperation in the Field of Automation: Experiences of a Major Bank. With English summary.)

Roll, E. Il mercato internazionale dei capitali ed il sistema monetario internazionale: Intervento. (The International Capital Market and the International Monetary System: Commentary. With English summary.)

Sarcinelli, M. La banca centrale di fronte all'automazione del settore creditizio. (The Central Bank and Automation of Banking Business. With English summary.)

Scatena, L. Il sistema monetario europeo: funzionamento e prospettive. (The European Monetary System: Functioning and Prospects. With English summary.)

Villani, M. L'euromercato e l'offerta mondiale di moneta. (The Euromarket and the World Supply of Money. With English summary.)

Bulletin for International Fiscal Documentation, Vol. 32, No. 12, 1978

Blanckensee, R. E. Overseas Investment in Australian Oil and Gas.

de Brauw-Hay, E. A. The Nigerian Budget, 1978/79.

Ezejelue, A. C. Nigeria: Canons of Taxation and Personal Income Tax.

Hope, K. R. Some Economic Effects of the Corporate Profits Tax: A Theoretical Appraisal with Special Reference to Canada.

Pick, J. F. Israel: New Measures Reflecting Inflation in the Israeli Tax Legislation.

Bulletin for International Fiscal Documentation, Vol. 33, No. 1, 1979

Casna, R. P. The Foreign Earned Income Act of 1978: The Taxation of U.S. Citizens Overseas.

Jao, Y. C. Hong Kong's New Tax on Offshore Banking Profits.

Juocys, A. Compensation of Expatriates Transferred to Brazil.

Mann, A. J. The New Tax Exemption Law in Puerto Rico.

Bulletin for International Fiscal Documentation, Vol. 33, No. 2, 1979

Spiller, H. The Promotion of Housing Construction in GDR Towns and Communities by the State Financial System.

Thimmaiah, G. Tax Reform in India: An Evaluation of the Report of the Indirect Taxation Enquiry Committee (1977–78)

Business History Review, Vol. 53, No. 1, Spring 1979

Cochran, T. C. The Value of Company History: A Review Article.

Landes, D. S. Watchmaking: A Case Study in Enterprise and Change.

Pierenkemper, T. Entrepreneurs in Heavy Industry: Upper Silesia and the Westphalian Ruhr Region, 1852 to 1913.

Spencer, E. G. Rulers of the Ruhr: Leadership and Authority in German Big Business before 1914.

California Management Review, Vol. 21, No. 2, Winter 1978

Crandall, N. F. and Wooton, L. M. Developmental Strategies of Organizational Productivity.

Richman, B. Sino-American Economic Relations: Constraints, Opportunities, and Prospects.

Steade, R. D. Multinational Corporations and the Changing World Economic Order.

Canadian Journal of Agricultural Economics, Vol. 27, No. 1, February 1979

Adeyokunnu, T. O. Eggs in the Diet of Western Nigerians: Engel Function Applied.

Green, R. D.; Hassan, Z. A. and Johnson, S. R. Price Elasticity Estimates from Family Expenditure Data: An Application of the Extended Linear Expenditure System.

Jose, H. D. The Incidence of Property Tax in Rural Saskatchewan.

McNeill, R. C. Depreciation of Farm Tractors in British Columbia.

Meilke, K. D. and Zwart, A. C. Effects of Alternative Specifications on the Policy Implications of a Model: An Illustration.

Pemberton, C. A. and Craddock, W. J. Goals and Aspirations: Effects on Income Levels of Farmers in the Carman Region of Manitoba.

Canadian Journal of Economics, Vol. 12, No. 1, February 1979

Aivazian, V. A. and Callen, J. L. A Note on the Economics of Exhaustible Resources.

• **Appelbaum, E. and Kohli, U. R.** Canada–United States Trade: Tests for the Small-Open-Economy Hypothesis.

• **Globerman, S.** Foreign Direct Investment and 'Spillover' Efficiency Benefits in Canadian Manufacturing Industries.

• **May, J. D. and Denny, M.** Post-War Productivity in Canadian Manufacturing.

• **Muzondo, T. R.** The Corporation Income Tax and Depreciation Policy in the Short Run.

Polinsky, A. M. Notes on the Symmetry of Taxes and Subsidies in Pollution Control.

Sarlo, C. A. The Role of Money in the Canadian Economy: Fixed v. Flexible Exchange Rates.

Scarth, W. M. Real Disturbances, Perfect Capital Mobility, and Exchange Rate Policy.

• **Sims, W. A.** The Response of Firms to Pollution Charges.

Stuart, C. A Confusion in the Treatment of Bilateral Monopoly.

Canadian Public Policy, Vol. 5, No. 1, Winter 1979

Arvay, J. Newfoundland's Claim to Offshore Mineral Resources: An Overview of the Legal Issues.

Beigie, C. E. The Royal Commission on Corporate Concentration: Comment.

Campney, A. F. The Royal Commission on Corporate Concentration: Comment.

Clement, W. The Royal Commission on Corporate Concentration: Comment.

Comeau, R. L. The Budget [A View].

Garnier, G. Les entreprises multinationales et l'indépendance éventuelle du Québec.

May, J. D. Investment Incentives as Part of an Industrial Strategy.

Murphy, M. The Economic Council Annual Review: Comment.

Paus-Jenssen, A. Resource Taxation and the Supreme Court of Canada: The Cigol Case.

Pesando, J. E. The Indexing of Private Pensions: An Economist's Perspective on the Current Debate.

Roberts, L. W. Some Unanticipated Consequences of Affirmative Action Policies.

Sawyer, J. A. The Economic Council Annual Review: Comment.

Sumner, M. T. A Skeptical Note on the Efficacy of Temporary Sales Tax Reductions.

Walker, M. A. The Budget [A View].

Chinese Economic Studies, Vol. 12, No. 1–2, Fall-Winter 1978/79

Ch'iang, L. Distinguish the Correct Line from the Incorrect Ones; Actively Develop Socialist Foreign Trade.

Ch'iu-li, Y. Mobilize the Whole Party: Fight a Decisive Battle for Three Years: Strive Hard to Basically Realize Agricultural Mechanization.

Ch'ung, P. Fully Utilize and Actively Develop Shanghai's Industry and Make Even Greater Contributions toward the Realization of the Four Modernizations.

Fang I. Abstract of a Report on the State of Science and Education Delivered by Comrade Fang I at the Seventh Enlarged Meeting of the Standing Committee of the Fourth National Committee of the Chinese People's Political Consultative Conference.

Hsueh-sen, C. Modern Science and Technology.

Yung-kuei, C. Treat Farmland Capital Construction as a Great Socialist Task.

Consommation, Vol. 25, No. 3, July–September 1978

Foulon, A. and Hatchuel, G. Les effets redistributifs des finances publiques en 1965 et 1970. (The Redistribution of Public Finances in France in 1965 and 1970. With English summary.)

Lecomte, T. La concentration des dépenses de santé: Les 10% plus forts consommateurs. (The Concentration of Medical Expenditure: The 10% Top Users. With English summary.)

Madre, J.-L. Les effets redistributifs des finances publiques dans le domaine des transports urbains. (The Redistributive Effects of Public Funds on Urban Transports. With English summary.)

Czechoslovak Economic Digest, No. 7, November 1978

Franěk, R. Socialist Transformations in Agriculture.

Kudrna, K. System Concept of Scientific-Technical Development of Agriculture.

Matúšek, O. Expression of Growing Activity and Initiative of Working People.

Slepička, A. Transformation of the Village and the Way of Life.

Varga, J. Tasks of the Agricultural Policy of the Communist Party.

Zlocha, N. Economic Theory for Managerial Practice.

Czechoslovak Economic Digest, No. 8, December 1978

Baibakov, N. K. Long-Term Target Programs—A New Stage in the Development of Socialist Economic Integration of the CMEA Countries.

Houdek, K. The Fuel and Energy Base: Concept, Plan, and Development.

Sedivý, Z. Czechoslovakia's Cooperation with the CMEA Countries in Drawing up the Plans for the Period after 1980.

Svoboda, M. Long-Term Development of the Czechoslovak Engineering Industry and Its Main Branches.

Demography, Vol. 16, No. 1, February 1979

Chamblee, R. F.; Clifford, W. B. and Mustian, R. D. Validation of an Inferential Approach for the Measurement of Illegitimacy.

Freshnock, L. and Cutright, P. Models of Illegitimacy: United States, 1969.

Krishnamoorthy, S. Family Formation and the Life Cycle.

Mare, R. D. Social Background Composition and Educational Growth.

McGirr, N. J. The Two Generation Urbanite Hypothesis Revisited.

Menken, J. Seasonal Migration and Seasonal Variation in Fecundability: Effects on Birth Rates and Birth Intervals.

Pollard, J. H. Bias in Graduated Life Table Functions.

Preston, S. H. and McDonald, J. The Incidence of Divorce within Cohorts of American Marriages Contracted since the Civil War.

Rosenfeld, R. A. and Sørensen, A. B. Sex Differences in Patterns of Career Mobility.

Trussell, J. and Brown, E. A Close Look at the Demography of Afghanistan.

Williams, G. The Changing U.S. Labor Force and Occupational Differentiation by Sex.

Desarrollo Económico, Vol. 18, No. 70, July–September 1978

Brodersohn, V. and Slutzky, D. Dependencia interna y desarrollo: el caso del chaco.

Cavarozzi, M. El orden oligarquico en Chile, 1880–1940.

Colome, R. A. "Excedente financiero" del sector agropecuario argentiono: reflexiones en torno de un trabajo anterior y nueva estimación.

Elias, V. J. Productividad en el corto y largo plazo en la Argentina.

Gimenez Zapiola, M. and Leguizamon, C. M. Aldo Ferrer y la politica economica en la Argentina de posguerra (III)

Ondarts, G. Inversión, Distribución y demanda.

Socolow, S. M. La burguesia comerciante de Buenos Aires en el siglo XVIII.

Torres, H. A. El mapa social de Buenos Aires en 1943, 1947 y 1960: Buenos Aires y los modelos urbanos.

Eastern European Economics, Vol. 17, No. 1–2, Fall–Winter 1978–79

Zwass, A. Money, Banking, and Credit in the Soviet Union and Eastern Europe.

Econometrica, Vol. 47, No. 1, January 1979

- **Anderson, T. W. and Sawa, T.** Evaluation of the Distribution Function of the Two-Stage Least Squares Estimate.

Bitros, G. C. Neoclassical Theory of Trade Credit: A Critique and A Reformulation.

Breusch, T. S. Conflict among Criteria for Testing Hypotheses: Extensions and Comments.

- **Chipman, J. S.** Efficiency of Least-Squares Estimation of Linear Trend when Residuals are Autocorrelated.
- **Clark, C. W.; Clarke, F. H. and Munro, G. R.** The Optimal Exploitation of Renewable Resource Stocks: Problems of Irreversible Investment.
- **Crawford, V. P.** A Procedure for Generating Pareto-Efficient Egalitarian-Equivalent Allocations.

Farebrother, R. W. A Grouping Test for Misspecification.

Fomby, T. B. and Hill, R. C. Multicollinearity and the Minimax Conditions of the Bock Stein-Like Estimator.

- **Gevers, L.** On Interpersonal Comparability and Social Welfare Orderings.
- **Heckman, J. J.** Sample Selection Bias as a Specification Error.
- **Kreps, D. M. and Porteus, E. L.** Dynamic Choice Theory and Dynamic Programming.
- **Myerson, R. B.** Incentive Compatibility and the Bargaining Problem.
- **Neftçi, S. N.** Lead-Lag Relations, Exogeneity and Prediction of Economic Time Series.
- **Petersen, H.-G.** Effects of Growing Incomes on Classified Income Distributions, the Derived Lorenz Curves, and Gini Indices.
- **Reinsel, G.** Maximum Likelihood Estimation of Stochastic Linear Difference Equations with Autoregressive Moving Average Errors.
- **Riddell, W. C.** The Empirical Foundations of the Phillips Curve: Evidence from Canadian Wage Contract Data.

Econometrica, Vol. 47, No. 2, March 1979

- **Ali, M. M.** Some Evidence of the Efficiency of a Speculative Market.
- **Arrow, K. J. and Radner, R.** Allocation of Resources in Large Teams.

Balachandran, K. R. and Schaefer, M. E. Class Dominance Characteristics at a Service Facility.

Bianchi, C.; Calzolari, G. and Corsi, P. A Note on the Numerical Results by Goldberger, Nagar, and Odeh.

- **Deistler, M. and Schrader, J.** Linear Models with Autocorrelated Errors: Structural Identifiability in the Absence of Minimality Assumptions.
- **Grossman, S. J. and Hart, O. D.** A Theory of Competitive Equilibrium in Stock Market Economies.
- **Guesnerie, R.** Financing Public Goods with Commodity Taxes: The Tax Reform Viewpoint.
- **Hausman, J. A. and Wise, D. A.** Attrition Bias in Experimental and Panel Data: The Gary Income Maintenance Experiment.
- **Hsiao, C.** Measurement Error in a Dynamic Simultaneous Equations Model with Stationary Disturbances.
- **Kahneman, D. and Tversky, A.** Prospect Theory: An Analysis of Decision under Risk.
- **Kaneko, M. and Nakamura, K.** The Nash Social Welfare Function.

Leamer, E. E. Information Criteria for Choice of Regression Models: A Comment.

- **Lillard, L. A. and Weiss, Y.** Components of Variation in Panel Earnings Data: American Scientists, 1960-70.

Polinsky, A. M. The Demand for Housing: An Empirical Postscript.

- **Riley, J. G.** Informational Equilibrium.

Rubinstein, A. A Note about the "Nowhere Denseness" of Societies Having an Equilibrium under Majority Rule.

Economia, Vol. 2, No. 3, October 1978

Barrocas, J. M. O 2.° Congresso Europeu dos Economistas Agrícolas.

Cavaco Silva, A. A. Políticos, Burocratas e economistas. (Politicians, Bureaucrats and Economists. With English summary.)

Cavaco Silva, A. Notas pura uma Actuação no Domínio da Habitação.

Espinosa, J. G. La propiedad y el financiamiento de las empresas en la transicion hacia una democratizacion de la economia. (The Problem of the Ownership and Financing of Enterprises in the Transition towards a Democratization of the Economy. With English summary.)

Gouveia Pereira, O. Herbert Simon: Psicologia e Economia.

de Macedo, J. B. Préimo Novel em Economia para Herbert Simon: O "homo interdisciplinaris"

Mateus, A. M. Investimento em casas de habita-

ção: Politicas de rendas e de crédito. (A Model for Investment in Housing: Rent and Credit Policies. With English summary.)

Pires, C. Habitação em Portugal: Problemas Actuais e Perspectivas Futuras.

Rodrigues, V. M. C. Os efeitos induzidos no saldo da blança comercial por uma desvalorização do escudo: Um modelo aplicado. (The Induced Effects of a Devaluation of the Portuguese Escudo on the Trade Balance: An Applied Model. With English summary.)

Valadares Tavares, L. and Oliveira, R. C. Estratégias locaionais na expansão urbana: Um contributo para a análise de custos. (Locational Strategy for Urban Developments: Costs Analysis. With English summary.)

Economic Development and Cultural Change, Vol. 27, No. 2, January 1979

Blumenthal, T. A Note on the Relationship between Domestic Research and Development and Imports of Technology.

Bronfenbrenner, M. Rejoinder to Professor MacPhee [Predatory Poverty on the Offensive: The UNCTAD Record].

Chinn, D. L. Rural Poverty and the Structure of Farm Household Income in Developing Countries: Evidence from Taiwan.

Falaris, E. M. The Determinants of Internal Migration in Peru: An Economic Analysis.

Frenzel, K. A. and McCready, D. J. Health Economics: A Subdiscipline?

Kahan, A. Social Aspects of the Plague Epidemics in Eighteenth-Century Russia.

MacPhee, C. R. Martin Bronfenbrenner on UNCTAD and the GSP: Comment.

Rimmer, D. Have-Not Nations: The Prototype.

Thakur, C. P. Skill Generation and Labor Market in a Developing Economy.

Williamson, J. G. Inequality, Accumulation, and Technological Imbalance: A Growth-Equity Conflict in American History?

Economic Geography, Vol. 55, No. 1, January 1979

Clark, J. R. Measuring the Flow of Goods with Archeological Data.

Gregor, H. F. The Large Firm as a Stereotype: A Look at the Pacific Southwest.

O'Loughlin, J. and Munski, D. C. Housing Rehabilitation in the Inner City: A Comparison of Two Neighborhoods in New Orleans.

Seley, J. E. A Comparison of Technical and Ethnographic Approaches in the Evaluation and Planning of Professional Fire Services: Tinkering with Success.

White, A. N. Accessibility and Public Facility Location.

Economic History Review, Second Series, Vol. 32, No. 1, February 1979

- **Beresford, M. W.** The Decree Rolls of Chancery as a Source for Economic History, 1547–c.1700.
- **Bonney, R. J.** The Failure of the French Revenue Farms, 1600–60.
- **Chapman, S. D.** Financial Restraints on the Growth of Firms in the Cotton Industry, 1790–1850.
- **Cohen, J. S.** Facism and Agriculture in Italy: Policies and Consequences.

Collins, M. English Bank Deposits before 1844: A Comment.

Overy, R. J. The German Motorisierung and Rearmament: A Reply.

Spenceley, G. F. R. R. J. Overy and the Motorisierung: A Comment.

- **Tomlinson, B. R.** Britain and the Indian Currency Crisis, 1930–2.
- **von Tunzelmann, G. N.** Trends in Real Wages, 1750–1850, Revisited.

Economic Inquiry, Vol. 17, No. 1, January 1979

- **Bartel, A. P.** Women and Crime: An Economic Analysis.
- **Boyd, J. W.** Transaction Risk and Bidding Behavior.

Flowers, M. R. Supplemental Benefits for Spouses under Social Security: A Public Choice Explanation of the Law.

Hewins, D. C. and Shelley, J. B. Sweezy's Kink: Macro Foundations of a Micro Theory.

- **Hoenack, S. A. and Weiler, W. C.** The Demand for Higher Education and Institutional Enrollment Forecasting.

James, R. G. A Note on Dr. Friedman's Consumption Function.

- **Kardasz, S. W.** The Capital-Stock Decision of Subsidiaries.

Kraus, M. On Pareto-Optimal Time Allocation.

- **Linnerooth, J.** The Value of Human Life: A Review of the Models.

Martin, R. L. Price Elasticity and a Shifting Demand Curve.

Marvel, H. P. Gasoline Price Signs and Price Behavior: Comment.

- **Sheffrin, S. M.** Unanticipated Money Growth and Output Fluctuations.

Umbeck, J. Welfare Effects of Sales Maximization: A Methodological Critique.

- **Varian, H. R.** Catastrophe Theory and the Business Cycle.

Economic Journal, Vol. 89, No. 353, March 1979

- **Barro, R. J.** Money and the Price Level under the Gold Standard.

- • **Brown, A. J.** Inflation and the British Sickness.
- • **Collier, P.** The Welfare Effects of Customs Union: An Anatomy.
- **Disney, R.** Recurrent Spells and the Concentration of Unemployment in Great Britain.
- • **Doherty, N. A.** National Insurance and Absence from Work.
- • **Domberger, S.** Price Adjustment and Market Structure.
- **Jazairi, N. T.** the Functional Form of the Relation between Alternative Real Income Comparisons.
- **Langley, P. C.** The Private Gains to Long-Distance Migration in the United States.
- • **Nickell, S. J.** The Effect of Unemployment and Related Benefits on the Duration of Unemployment.
- • **Roberts, K. W. S.** Welfare Considerations of Nonlinear Pricing.
- **Rowthorn, R. E.** A Note on Verdoorn's Law.

Economic Policy Review, No. 4, March 1978

- **Bacon, R.; Godley, W. and McFarquhar, A.** The Direct Costs to Britain of Belonging to the EEC.
- **Coutts, K.** Short-Run Variations in Company Profits.
- **Cripps, F.; Fetherston, M. and Ward, T.** The Effects of Different Strategies for the UK Economy.
- **Cripps, F.** Causes of Growth and Recession in World Trade.
- **Fetherston, M.** Statistical Appendix.
- **Kennedy, C.** Inflation Accounting: Retrospect and Prospect.
- **Moore, B., et al.** A Return to Full Employment?

Economic Record, Vol. 54, No. 146, August 1978

- • **Babich, G. and Goodhew, J.** Short Term Econometric Forecasting and Seasonal Adjustment.
- **Easton, B. H.** A Relationship between Earnings Inequality and Wealth Inequality.
- • **Falvey, R. E.** Trade Policies and Industralisation.
- • **Felmingham, B. S. and Bennett, P. A.** Monetary Policy Reaction in an Interdependent Instrument Setting.
- **Hunt, B. F. and Valentine, T. J.** The Interdependence of Monetary Policy and Capital Flows in Australia: A Comment.
- • **Laing, N. F.** The Dynamics of Inflation and Employment in the Full-Employment Zone: A Theoretical Analysis.
- • **Lloyd. P. J.** Wage Indexation: The Treatment of Public Sector Taxes and Goods.
- • **Mathews, R.** Federal Balance and Economic Stability.
- • **Murray, G. L.** Monetary Policy and Capital Inflow.
- • **Murray, D.** Sources of Income Inequality in Australia, 1968–69.
- **Porter, M. G.** The Interdependence of Monetary Policy and Capital Flows in Australia: A Reply.
- • **Powell, R. A. and Mandeville, T. D.** Analysis of Sector Interactions and Stability in a Rural Region of NSW.
- **Schiavo-Campo, S.** The Simple Measurement of Structural Change: A Note.
- • **Trivedi, P. K. and Rayner, J.** Wage Inertia and Comparison Effects in Australian Award Wage Determination, 1964–74.

Economic Studies Quarterly, Vol. 29, No. 3, December 1978

- • **Abe, M. A.** Reciprocal Consumption Externalities in Urban Transportation: Problems of Optimal Tolls and Investment.
- • **Ezaki, M.** Growth Accounting of Postwar Japan: The Input Side.
- **Fujimori, Y.** The Fundamental Marxian Theorem with Heterogeneous Labour.
- • **Fujimoto, T.** Exploitation, Profits and Growth: A Disequilibrium Analysis.
- • **Nakamura, K.** Necessary and Sufficient Conditions on the Existence of a Class of Social Choice Functions.
- **Nishimura, K.** On the Existence Proofs of General Equilibria.
- • **Riddell, W. C.** The Use of the Stepwise Chow Test.
- • **Shinkai, Y.** An Analysis of the Bank of Japan's Business Survey Data.
- • **Tsurumi, H.** A Bayesian Test of a Parameter Shift in a Simultaneous Equation with an Application to a Macro Savings Function.

Economica, Vol. 45, No. 180, November 1978

- • **Boadway, R.** A Note on the Treatment of Foreign Exchange in Project Evaluation.
- • **Collins, M.** Monetary Policy and the Supply of Trade Credit, 1830-1844.
- • **Levin, R. C.** Technical Change, Barriers to Entry, and Market Structure.
- • **Masson, P. R.** Structural Models of the Demand for Bonds and the Term Structure of Interest Rates.
- **Ng, Y.-K.** Optimal Club Size: A Reply.
- • **Nickell, S. J.** Fixed Costs, Employment and Labour Demand over the Cycle.
- • **Stevens, D. N. and Foster, J. E.** The Possibility of Democratic Pluralism.

Economisch en Sociaal Tijdschrift, Vol. 33, No. 1, February 1979

- **Dillen, J. and Op de Beeck, P.** De fiscale voordelen voor sommige buitenlanders die tijdelijk in

Belgie verblijven.

Goethals, H. Een nieuwe wet betreffende de arbeidsovereenkomsten.

Ooghe, H. and De Groote, W. Rendabiliteit van investeringsprojecten en fiscale afschrijvingsstelsels: een sensitiviteitsonderzoek.

Sarens, A. Aanvullingen op het gestabiliseerd actueel boekhouden in verband met het transactieresultaat bij FIFO-waardering van de goederen. (Supplement to Stabilized Actual Accounting Concerning Transaction Results by FIFO Valuation of Stocks. With English summary.)

Tindemans, L. 125 jaar sint-ignatius: Economische kennis in het huidige maatschappelijk bestel, europees en international.

Van den Panhuyzen, W. Een industrieel beleid voor een "small open economy"

Verbruggen, A. Stadsverwarming: het verloop van de warmtevraag over een jaar.

Virenque, P.-H. 20 jaar seso: profiel van de universitaire enconoom-vorser.

Économies et Sociétés, Vol. 12, No. 6–7, June–July 1978

Auray, J.-P.; Duru, G. and Mougeot, M. Propositions pour une analyse topologique des ensembles d'agents.

Auray, J.-P.; Duru, G. and Mercier, A. Structure économique et environnement.

Percebois, J. A propos de quelques concepts utilisés en économie de l'énergie.

Perroux, F. Trois outils d'analyse pour l'étude du sous-développement.

Perroux, F. Matériaux pour une analyse de la croissance économique.

Poirier, J.-E. Allocation of Money Amounts to a Regional Public Goods Project Involving Water Quality.

Vallée, R. Sur l'étude mathématique du duopole.

Économies et Sociétés, Vol. 12, No. 8–9, August–September 1978

Boissonade, M.; Guillaumont, P. and Hubidos, F. Quelques observations sur les facteurs du niveau et de la concentration des exportations.

Bonnefoy, F. Réseau d'échanges internationaux et taux effectif de protection.

Brochart, F. Concentration, instabilité et croissance des exportations.

Cachin, A. Approche monétaire et approche financière de la balance des paiements.

Granier, R. and Djondang, P. Les aspects quantitatifs de la croissance économique des pays moins développés: Une analyse comparative transversale (1950–1974)

Weiller, J. Flexibilité des structures et préférence pour un mode d'expansion—ou de croissance—par l'exportation (rappel de quelques considérations sur notre projet initial)

De Economist, Vol. 126, No. 4, 1978

- **van Duijn, J. J.** Dating Postwar Business Cycles in the Netherlands, 1948-1976.
- **Hartog, F.** Hennipman on Economic Policy and Welfare Economics: A Review Article.
- **Hartog, J. and Veenbergen, J. G.** Dutch Treat, Long-run Changes in Personal Income Distribution.

Holtrop, M. W. Een Terugblik op Mr. N. G. Pierson. (A Retrospective View of Dr. N. G. Pierson. With English summary.)

- **Psacharopoulos, G. and Tinbergen, J.** On the Explanation of Schooling, Occupation and Earnings: Some Alternative Path Analyses.

Economy and History, Vol. 21, No. 2, 1978

Ahlström, G. Higher Technical Education and the Engineering Profession in France and Germany during the 19th Century: A Study on Technological Change and Industrial Performance. (With English summary.)

Hodne, F. New Evidence on the History of Tobacco Consumption in Norway, 1665–1970.

Jonung, L. and Wadensjö, E. A Model of the Determination of Wages and Prices in Sweden, 1922–1971.

Nilsson, C.-A. and Schön, L. Factories in Sweden, 1820–1870: A Typological Approach.

Smith, I. The Economics of Cane and Beet Sugar: A Rejoinder.

Empirica, No. 2, 1978

Böhm, B. An Empirical Investigation of Monetary Effects on Private Consumption Expenditures in Austria.

Breuss, F. Energienachfrage und Potential Output in Gesamtwirtschaft und Industrie. (With English summary.)

Fink, G. and Skolka, J. Die Kapital-und Arbeitsintensität des österreichischen Aussenhandels 1964. (With English summary.)

Pollan, W. and Tintner, G. The Short-Term Responsiveness of Consumer Expenditures in the Austrian Economy.

Smeral, E. Ein Entscheidungsmodell für Konsumieren und Sparen. (With English summary.)

Empirical Economics, Vol. 3, No. 3, 1978

Ghosh, D. and Kazi, U. A Macroeconomic Model for Nigeria, 1958–1974.

Marwah, K. A World Model of International Trade: A Supplement on Measuring the Com-

petitive Prices and Regional Weights in (1–9) Markets.

Morel, C. and Steinherr, A. An Empirical Study of World Market Influences on Price Formation in West Germany.

Pauly, R. Personal Income Tax Policies: A Study for West-Germany.

Engineering Economist, Vol. 23, No. 4, Summer 1978

Bossert, R. W. Devices for Electric Utility Rate Design under Transition Towards Time of Use Marginal Cost Pricing.

Hoskins, C. G. Capital Budgeting Decision Rules for Risky Projects Derived from a Capital Market Model Based on Semivariance.

Loughlin, J. C. and Pae, K.-T. Discriminant Analysis and Local Rejection of Corps Reservoir Recreation Projects.

Willis, R. E. Estimating Facility Size for Variable or Uncertain Activity Levels.

Engineering Economist, Vol. 24, No. 1, Fall 1978

Frair, L. C. and Devine, M. D. The Consideration of Depletion in After-Tax Optimization Models.

Freeland, J. R. and Rosenblatt, M. J. An Analysis of Linear Programming Formulations for the Capital Rationing Problem.

Ignizio, J. P. The Development of Cost Estimating Relationships via Goal Programming.

Jeynes, P. H. Effective or Nominal Federal Income Tax Rates in Engineering Economy Studies? Or Neither?—A Comment.

Oso, J. B. The Proper Role of the Tax-Adjusted Cost of Capital in Present Value Studies.

Schall, L. D. and Kerr, H. S. The Validity of Existing Capitalization Methods.

Engineering Economist, Vol. 24, No. 2, Winter 1978

Allen, C. L.; Martin, J. D. and Anderson, P. F. Debt Capacity and the Lease-Purchase Problem: A Sensitivity Analysis.

Bernhard, R. H. A Simpler Internal Rate of Return Uniqueness Condition Which Dominates That of de Faro and Soares.

Lueken, J. A. and Stuhr, D. P. Decision Trees and Risky Projects.

Park, C. S. and Thuesen, G. J. Combining the Concepts of Uncertainty Resolution and Project Balance for Capital Allocation Decisions.

Federal Reserve Bank of New York Quarterly Review, Vol. 3, No. 4, Winter 1978–79

Brusca, R. United States Export Performance.

• **Garbade, K. D. and Kaicher, M. M.** Exchange-Traded Options on Common Stock.

Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations.

Melton, W. C. Corporate Equities and the National Market System.

Sahling, L. Are State and City Corporate Income Taxes Stifling Investment in New York?

Volcker, P. A. The Political Economy of the Dollar.

Federal Reserve Bank of St. Louis Review, Vol. 61, No. 1, January 1979

Gilbert, R. A. and Lovati, J. M. Disintermediation: An Old Disorder with a New Remedy.

Luttrell, C. B. The "Danger" from Foreign Ownership of U.S. Farmland.

Saxton, A. C., Jr. Operations of the Federal Reserve Bank of St. Louis-1978.

Federal Reserve Bank of St. Louis Review, Vol. 61, No. 2, February 1979

Stevens, N. A. and Luttrell, C. B. 1979 Food and Agricultural Outlook.

Tatom, J. A. and Lang, R. W. Automatic Transfers and the Money Supply Process.

Trebing, M. E. Economic Developments in 1978.

Federal Reserve Bank of St. Louis Review, Vol. 61, No. 3, March 1979

Gilbert, R. A. Benefits of Borrowing from the Federal Reserve when the Discount Rate is Below Market Interest Rates.

Lang, R. W. The FOMC in 1978: Clarifying the Role of the Aggregates.

Federal Reserve Bank of San Francisco Economic Review, Supplement Winter 1979

Keran, M. W. and Al Malik, A. A. Monetary Sources of Inflation in Saudi Arabia.

Federal Reserve Bank of San Francisco Economic Review, Winter 1979

Beebe, J. H. The Effect of Proposition 13 on California Municipal Debt.

Judd, J. P. Competition between the Commercial Paper Market and Commercial Banks.

Oakland, W. H. Proposition 13—Genesis and Consequences.

Federal Reserve Bulletin, Vol. 65, No. 1, January 1979

Teplin, A. M. The Economy in 1978: Moderate Expansion and Persistent Inflation.

Federal Reserve Bulletin, Vol. 65, No. 2, February 1979

Brundy, J. M.; Humphrey, D. B. and Kwast, M. L. Check Processing at Federal Reserve Offices.

Coldwell, P. E. Statement to Congress.

Eisenbeis, R. A. and Schweitzer, P. R. Tie-ins be-

tween the Granting of Credit and Sale of Insurance by Bank Holding Companies and Other Lenders.
Lefever, D. M. Survey of Time and Savings Deposits at Commercial Banks, October 1978.
Miller, G. W. Statement to Congress.
Miller, G. W. Statement to Congress.
Miller, G. W. Statement to Congress.
Teeters, N. H. Statement to Congress.
Wallich, H. C. Statement to Congress.

Federal Reserve Bulletin, Vol. 65, No. 3, March 1979

Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations.
Miller, G. W. Statement to Congress.
Miller, G. W. Statement to Congress.
Partee, J. C. Statement to Congress.
Partee, J. C. Statement to Congress.
Seiders, D. F. Recent Developments in Mortgage and Housing Markets.
Teeters, N. H. Statement to Congress.
Teeters, N. H. Statement to Congress.

Finance and Development, Vol. 16, No. 1, March 1979

Deppler, M. and Regling, K. Labor Market Developments in the Major Industrial Countries.
Goldstein, M. and Young, J. H. Exchange Rate Policy: Some Current Issues.
Gordon, D. L. The Bank and the Development of Small Enterprises.
Habermeier, W. O. The SDR as an International Unit of Account.
Heller, P. The Underfinancing of Recurrent Development Costs.
Jallade, J.-P. Financing Education for Income Distribution.
Ray, A. and van der Tak, H. G. A New Approach to the Economic Analysis of Projects.
Rovani, Y. The Problem of Water Supply and Waste Disposal.

Finanzarchiv, Vol. 37, No. 1, 1979

Dieckheuer, G. Zu den Wirkungen einer öffentlichen Kreditaufnahme auf die funktionelle und die personelle Einkommensverteilung.
Flassbeck, H. and Friedmann, W. Investitionen und Beschäftigung: Ammerkungen zu der Kritik von *Jurgen Kromphardt* an den diesbezüglichen Ausführungen des Sachverständigenrates.
Korff, H. C. Dynamische Verwaltung.
Kromphardt, J. Rationalisierungsinvestitionen und Beschäftigung: Replik.
Lüdeke, R. Kosten- und Ausgabendampfung im Gesundheitswesen als Problem einer zielgerichteten Krankenverischerungsreform.
Peffekoven, R. Zur Problematik einer persönlichen Ausgabensteuer.
Petersen, H.-G. Simulationsergebnisse über die Wirkungen einer Indexbindung des Einkommensteuersystems.
Schneider, D. Bezugsgrössen steuerlicher Leistungsfähigkeit und Vermögensbesteuerung.
Shoup, C. S. The Third Edition of the Handbuch der Finanzwissenschaft.
Stern, K. Das Urteil des Zweiten Senats des Bundesverfassungsgerichts vom 25. May 1977—2 BvE 1/74.

Food Research Institute Studies, Vol. 16, No. 3, 1977–78

- **Caves, R. E.** Organization, Scale, and Performance of the Grain Trade.
- **Herdt, R. W.; Te, A. and Barker, R.** The Prospects for Asian Rice Production.
- **Jones, W. O.** Turnips, the Seventh Day Adventist Principle, and Management Bias.
- **Page, J. M., Jr.** Economies of Scale, Income Distribution, and Small-Enterprise Promotion in Ghana's Timber Industry.
- **Peck, A. E.** Implications of Private Storage of Grains for Buffer Stock Schemes to Stabilize Prices.
- **Rutledge, D. J. S.** Estimation of Hedging and Speculative Positions in Futures Markets: An Alternative Approach.

Foreign Affairs, Vol. 57, No. 3, 1978

Whitman, M. v. N. A Year of Travail: The United States and the International Economy.

Foreign Affairs, Vol. 57, No. 4, Spring 1979

Bingham, J. B. and Johnson, V. C. A Rational Approach to Export Controls.
Stobaugh, R. and Yergin, D. After the Second Shock: Pragmatic Energy Strategies.

Giornale degli Economisti e Annali di Economia, Vol. 37, No. 9–10, September–October 1978

Bruni, F. Appunti sulla teoria monetaria di knut wicksell: In occasione dell'edizione italiana di "Geldzins und Güterpreise." (Knut Wicksell's Monetary Theory: On the Occasion of the Italian Edition of "Geldzins und Güterpreise." With English summary.)
Ferretti, M. Mobilità del capitale e teoria sraffiana: un modello semplificato e qualche esempio numerico. (Capital Mobility and Mr. Sraffa's Theory: A Simplified Model and Some Numerical Examples. With English summary.)
Fontanella, G. Sull'economia delle organizzazioni produttive dei servizi di trasporto pubblico negli ambiti locali. (On the Economics of Local

Public Transport Systems. With English summary.)

Stefani, G. La finanza dei governi locali e delle aree metropolitane giapponesi. (The Finance of Local Governments and of Metropolitan Areas in Japan. With English summary.)

Giornale degli Economisti e Annali di Economia, Vol. 37, No. 11–12, November–December 1978

Canziani, A. Per la pubblicazione dei "selected economic writings" di Fritz Machlup e di William J. Baumol. (On the Publication of the "Selected Economic Writings" by Fritz Machlup and William J. Baumol. With English summary.)

Del Boca, D. and Turvani, M. Eterogeneità della forza-lavoro e organizzazione familiare: una verifica empirica. (Etherogeneity of Labor Market and Family Organization: An Empirical Model. With English summary.)

Ferrari, F. Un'analisi critica di alcune definizioni di complementarietà, sostituibilità, indipendenza. (A Critical Analysis of Some Definitions of Complementarity, Substitutability, Independence. With English summary.)

Giannini, C. Cambiamento tecnologico e interdipendenze settoriali: una nota matematica. (Technological Change and the Input-Output Matrix. With English summary.)

Goisis, G. Nuove teorie sull'inutilizzazione degli impianti: il caso italiano. (New Theories on Capital Idleness: The Italian Case. With English summary.)

Lenti, L. Dentro e fuori le frontiere dell'economia. (Inside and Outside the Frontiers of Economics. With English summary.)

Savona, P. Il ruolo della moneta nelle politiche di gestione della domanda globale: note allo studio dell'ocse. (The Role of Money in Global Demand Management Policy: A Note on the OECD "Report." With English summary.)

Growth and Change, Vol. 10, No. 1, January 1979

Brannon, G. M. Tax Policy and Producer Incentives in the Energy Crisis.

Breyer, S. Taxes as a Substitute for Regulation.

Daly, H. E. Myths about Energy and Matter: Comment.

Drapkin, D. B. Taxes as a Substitute for Regulation: Comment.

von Furstenberg, G. M. Taxation of Crude Oil, Gasoline, and Related Fuels and Commodities: Comment.

Georgescu-Roegen, N. Myths about Energy and Matter.

Gillis, M. A Tale of Two Minerals: Severance Taxes on Energy Resources in the United States.

Hoch, I. Cost of Air Pollution Control for Users of Electricity: Comment.

Hughes, W. R. National and Regional Energy Models.

Koehler, G. J. National and Regional Energy Models: Comment.

McLure, C. E., Jr. A Tale of Two Minerals: Severance Taxes on Energy Resources in the United States: Comment.

Mead, W. J. Energy Policy and Deregulation: Two Hot Topics, or Does Smoke Necessarily Mean There's Fire? Comment.

Miernyk, W. H. The Energy Conference—A Commentary.

Newcomb, R. Modeling Growth and Change in the American Coal Industry.

Penner, R. G. Tax Policy and Producer Incentives in the Energy Crisis: Comment.

Renshaw, E. F. Taxation of Crude Oil, Gasoline, and Related Fuels and Commodities.

Rieber, M. Coal Transportation Models: The Use, Misuse, and Abuse of Data.

Schlottmann, A. Modeling Growth and Change in the American Coal Industry: Comment.

Shoup, C. S. Envoi—The National Energy Act of 1978.

Taylor, L. D. Time-of-Day and Seasonal Demand for Electric Power.

Whinston, A. B. Some Thoughts on Energy Modeling.

Wright, A. W. Energy Policy and Deregulation: Two Hot Topics, or Does Smoke Necessarily Mean There's Fire?

History of Political Economy, Vol. 11, No. 1, Spring 1979

• **Blaug, M.** The German Hegemony of Location Theory: A Puzzle in the History of Economic Thought.

• **Collier, C. F.** Henry George's System of Political Economy.

Hunt, E. K. The Invention of New Marxes to Debunk: A Comment on Wolfson's "Three Stages in Marx's Thought"

• **Petridis, A.** Bilateral Monopoly, Tariff Reform, and the Teaching of Economics: The Neglected Contribution of Langford Price (1862-1950)

• **Remenyi, J. V.** Core Demi-core Interaction: Toward a General Theory of Disciplinary and Subdisciplinary Growth.

• **Stigler, G. J. and Freidland, C.** The Pattern of Citation Practices in Economics.

• **Wolfson, M.** Three Stages in Marx's Thought.

Wolfson, M. Mr. Hunt and Mr. Marx [Three Stages in Marx's Thought]: Reply.

Hitotsubashi Journal of Economics, Vol. 19, No. 1–2, December 1978

Ara, K. Parable and Realism in the Theory of Capital: A Generalization of Prof. Samuelson's Theory of Surrogate Production Function.

Kojima, K. Direct Foreign Investment to Developing Countries: The Issue of Over-Presence.

Minoguchi, T. The Core of "The General Theory"

Ohkawa, M. Government-Type and Market-Type Higher Education: A Comparative Survey of Financing Higher Education in the Soviet Union, Great Britain, the United States and Japan.

Pertot, V. Japan Seen from the Focus of Her Economic Policy.

L'Impresa, Vol. 20, No. 6, 1978

Di Marco, V. L'evoluzione delle posizioni sindacali di fronte al problema della disoccupazione. (The Development of Union Positions in the Face of the Unemployment Problem. With English summary.)

Gay, G. Azienda e scuola: un rapporto difficile dalla parte dell'azienda. (Business and School: A Difficult Relationship—The Business Angle. With English summary.)

Lucisano, S. and Alberti, A. Gli investimenti in Medio Oriente: alcuni modelli del ciclo di vita. (Models for the Life Cycle of an Investment in Middle Eastern Countries. With English summary.)

Marvulli, R. Marketing e psicografia. (Marketing and Psychography. With English summary.)

Petroni, G. Mobilità internazionale dei quadri: il problema italiano. (International Mobility of Managers: The Italian Problem. With English summary.)

Vanni, L. Per un dibattito, serio, sulla disoccupazione. (Towards a Serious Debate on Unemployment. With English summary.)

Industrial Relations, Vol. 18, No. 1, Winter 1979

Anderson, J. C. Local Union Participation: A Reexamination.

Chafetz, I. and Fraser, C. R. P. Union Decertification: An Exploratory Analysis.

Edwards, P. K. Methodological Issues in Quantitative Strike Analysis: Comment.

Holmes, A. B. Union Activity and Teacher Salary Structure.

Katz, H. C. Municipal Pay Determination: The Case of San Francisco.

Lutz, M. A. Quit Rates and the Quality of the Industrial Wage Structure: Reply.

McLean, R. A. Interindustry Differences in Strike Activity.

Mixon, J. W., Jr. Quit Rates and the Quality of the Industrial Wage Structure: Comment.

Ponak, A. M. and Thompson, M. Faculty Attitudes and the Scope of Bargaining.

Quinn, J. F. Postal Sector Wages.

Shulenburger, D. E.; Krider, C. E. and Pichler, J. A. The Impact on Earnings of the Employment Service.

Smith, M. M. Industrial Racial Wage Discrimination in the U.S.

Stern, R. N. Methodological Issues in Quantitative Strike Analysis: Reply.

Thornton, R. J. The Elasticity of Demand for Public School Teachers.

Vickery, C. Unemployment Insurance: A Positive Reappraisal.

Walker, J. M. and Lawler, J. J. Dual Unions and Political Processes in Organizations.

Intermountain Economic Review, Vol. 9, No. 2, Fall 1978

Bopp, A. E. and Pendley, R. E. A Note on Estimating Economic Elasticities Using Lagged Endogenous Variables.

Dowd, D. Consciousness, Character, and Capitalist Development.

Grabowski, R. Obstacles to Technological Research in Less Developed Nations.

Hannah, R. Geothermal: The Emergence of an Infant Industry in a Developed Economy.

Kelso, P. R. New Taxes for the Capital Shortage: A Critical Review.

Nell, E. The Simple Theory of Effective Demand.

Snyder, D. L. The Economic Implications of Acreage Limitation.

Wickes, G. A Look at Catastrophe Theory.

International Economic Review, Vol. 20, No. 1, February 1979

- **Amemiya, T.** The Estimation of a Simultaneous-Equation Tobit Model.
- **Baron, D. P.** On the Relationship between Complete and Incomplete Financial Market Models.
- **Benhabib, J. and Nishimura, K.** On the Uniqueness of Steady States in an Economy with Heterogeneous Capital Goods.

Bigman, D. Capital Intensity and Regularity: A Note.

- **Calvo, G. A.** On Models of Money and Perfect Foresight.
- **Das, S. P. and Lee, S.-D.** On the Theory of International Trade with Capital Mobility.
- **Fomby, T. B.** MSE Evaluation of Shiller's Smoothness Priors.
- **Friedman, J. W.** Non-Cooperative Equilibria for Exit Supergames.

Kahn, L. M. and Morimune, K. Unions and Employment Stability: A Sequential Logit Approach.
- Kohn, R. On the Relative Efficiency of Two Methods of Estimating a Dynamic Simultaneous Equations Model.
- Maeshiro, A. On the Retention of the First Observations in Serial Correlation Adjustment of Regression Models.
- Mallela, P. and Rao, A. S. Necessary and Sufficient Conditions for Inadmissibility of Transformations in Time.

Mathieson, D. J. Traded Goods, Nontraded Goods, and the Balance of Payments: A Reply.
- McLaren, K. R. The Optimality of Rational Distributed Lags.
- Mitra, T. On Optimal Economic Growth with Variable Discount Rates: Existence and Stability Results.
- Pethig, R. Environmental Management in General Equilibrium: A New Incentive Compatible Approach.
- Reinsel, G. C. A Note on the Estimation of the Adaptive Regression Model.
- Tan, K. C. Optimal Control of Linear Econometric Systems with Linear Equality Constraints on the Control Variables.
- Viscusi, W. K. Job Hazards and Worker Quit Rates: An Analysis of Adaptive Worker Behavior.

Walker, M. A Generalization of the Maximum Theorem.

International Labour Review, Vol. 118, No. 1, January–February 1979

- Demetriades, E. I. and Psacharopoulos, G. Education and Pay Structure in Cyprus.

Kossov, V. Consumption-Production Linkages in the USSR.

Marin Quijada, E. Limitations of Legislation in Improving Working Conditions: The Venezuelan Experience.

Maturu, N. R. Nutrition and Labour Productivity.

Mayer, J. Spatial Aspects of Basic-Needs Strategy: The Distribution of Essential Services.
- Richards, P. J. Housing and Employment.

Szal, R. J. Popular Participation, Employment and the Fulfilment of Basic Needs.

Versen, P. Employer-Worker Co-operation in the Prevention of Employment Injuries.

International Monetary Fund Staff Papers, Vol. 25, No. 4, December 1978

Donovan, D. J. Modeling the Demand for Liquid Assets: An Application to Canada.
- Heller, H. R. and Khan, M. S. The Demand for International Reserves under Fixed and Floating Exchange Rates.
- Knight, M. D. and Wymer, C., R. A Macroeconomic Model of the United Kingdom.
- Lipschitz, L. Exchange Rate Policies for Developing Countries: Some Simple Arguments for Intervention.

Manison, L. G. Some Factors Influencing the United Kingdom's Economic Growth Performance.
- Richard, D. A Dynamic Model of the World Copper Industry.

International Social Science Journal, Vol. 30, No. 4, 1978

Gorman, G. E. and Shaw, L. Improving Information Flows on Current Development Research: A Western European Perspective.

Irish Banking Review, December 1978

Bareau, P. From the Gold Standard to the European Monetary System.

Geary, P. T. Real Wages and Employment.

Jahrbücher für Nationalökonomie und Statistik, Vol. 193, No. 4, August 1978

- Hagemann, H. and Pfister, J. Zur Relevanz des Truncation-Theorems in partialanalytischer und totalanalytischer Sicht. (On the Relevance of the Truncation Theorem within a Partial and a General Analytical Context. With English summary.)
- Jarchow, H.-J. and Möller, H. Bestimmungsgründe der Zentralbankgeldmenge und Steuerungsmöglichkeiten: Eine theoretische und ökonometrische Analyse für die Bundesrepublik. (The Determinants of the Zentralbankgeldmenge" and Ways and Means of Its Control: A Theoretical and Econometric Analysis for the Federal Republic of Germany. With English summary.)
- Prewo, W. Determinants of the Trade Pattern among OECD Countries from 1958 to 1974.
- Schmitt-Rink, G. Über Neo-Ricardianische Aussenhandelsmodelle. (On Neo-Ricardian Models of International Trade. With English summary.)
- Tichy, G. E. Die Allgemeine Theorie der Wirtschaftspolitik und die Neue Politische Ökonomie. (General Theory of Economic Policy and the "New Political Economy." With English summary.)

Jahrbücher für Nationalökonomie und Statistik, Vol. 193, No. 5, October 1978

- Majer, H. Die Problematik der Bestimmung von Konflikten wirtschaftspolitischer Ziele. (The Problem of Defining Conflicts of Economic Targets. With English summary.)

- Schulz, H. Einige Anmerkungen zum internationalen Zinszusammenhang über den Eurodollarmarkt. (Some Remarks on the Interdependence of International Interest Rates via the Eurodollar Market. With English summary.)
- Timmermann, V.; Focke, G. and Ruiz, M. Supplementäre Strategien für Entwicklungsländer: Eine empirische Ermittlung strategischer Sektoren unter Verwendung der Input-Output-Technik. (Supplementary Strategies for Developing Countries: An Empirical Determination of Strategic Sectors by Means of the Input-Output-Technique. With English summary.)
- Zweifel, P. Die Translog-Näherung einer beliebigen Transformationskurve: Darstellung und Kritik. (The Translog Approximation to an Arbitrary Production Frontier: A Critical Guide. With English summary.)

Jahrbücher für Nationalökonomie und Statistik, Vol. 193, No. 6, December 1978

- Borchardt, K. Wissenschaftliche Literatur als Medium wissenschaftlichen Fortschritts. (Scientific Publications as Media of Scientific Progress. With English summary.)
- von Delhaes, K. Transparenz, Reaktionsgeschwindigkeit und Verhaltensweise: Eine Modellanalyse zum Ablauf von Informationsund Lernprozessen auf homogenen Märkten. (Transparency, Speed of Adjustment and Market Conduct: Processes of Dispersion and Evaluation of Information in Homogeneous Markets, Analysed within a Simple Sequential Model. With English summary.)

Dürr, E. Kann der Staat die Konjunktur steuern? (Is the State Able to Control Business Cycle?)

- Henderson, W. O. Die Nachwirkungen der Listschen Gedanken, 1847–1853. (Friedrich List—The Aftermath, 1848–1853. With English summary.)
- von Knorring, E. Die statistische Ermittlung von Strukturfaktoren—Einige kritische Anmerkungen. (The Statistical Computation of Structural Factors—Some Critical Remarks. With English summary.)
- Mückl, W. J. On the Existence of a Two-Class Economy in the Cambridge Models of Growth and Distribution.
- Rohwedder, J. Gesamtwirtschaftliche Nachfragefunktion und Vermögenseffekte. (Aggregate Demand Function and Wealth Effects. With English summary.)
- Sauernheimer, K. Ineffizienz der Geldpolitik bei flexiblen Kursen? Bemerkungen zu einem Beitrag von Niehans. (Inefficacy of Monetary Policy under Flexible Exchange Rates? A Note. With English summary.)

Journal of Comparative Economics, Vol. 2, No. 4, Dec. 1978

Brada, J. C. and Jackson, M. R. The Organization of Foreign Trade under Capitalism and Socialism.

Conn, D. Economic Theory and Comparative Economic Systems: A Partial Literature Survey.

McIntyre, R. J. and Thornton, J. R. Urban Design and Energy Utilization: A Comparative Analysis of Soviet Practice.

Stauber, L. G. A Democratic Market Economy: A Response.

Thornton, J. A. Soviet Methodology for the Valuation of Natural Resources.

Journal of the American Statistical Association, Vol. 74, No. 365, March 1979

Arnold, S. F. Linear Models with Enchangeably Distributed Errors.

- Baillie, R. T. The Asymptotic Mean Squared Error of Multistep Prediction from the Regression Model with Autoregressive Errors.
- Cook, R. D. Influential Observations in Linear Regression.

Denby, L. and Martin, R. D. Robust Estimation of the First-Order Autoregressive Parameter.

- Geisser, S. and Eddy, W. F. A Predictive Approach to Model Selection.

Gragg, W. B.; Leveque, R. J. and Trangenstein, J. A. Numerically Stable Methods for Updating Regressions.

Harville, D. A. Some Useful Representations for Constrained Mixed-Model Estimation.

- Hsu, D. A. Detecting Shifts of Parameter in Gamma Sequences with Applications to Stock Price and Air Traffic Flow Analysis.

Kumar, K. D.; Nicklin, E. H. and Paulson, A. S. Comment on "Estimating Mixtures of Normal Distributions and Switching Regressions"

- Plosser, C. I. Short-term Forecasting and Seasonal Adjustment.

Quandt, R. E. and Ramsey, J. B. Estimating Mixtures of Normal Distributions and Switching Regressions: Rejoinder.

- Spitzer, J. J. Small-Sample Properties of Nonlinear Least Squares and Maximum Likelihood Estimators in the Context of Autocorrelated Errors.
- Thursby, J. G. Alternative Specification Error Tests: A Comparative Study.

Winkler, R. L. and Franklin, L. A. Warner's Randomized Response Model: A Bayesian Approach.

- Zellner, A. and Park, S.-B. Minimum Expected Loss (MELO) Estimators for Functions of Parameters and Structural Coefficients of Econometric Models.

Journal of Bank Research, Vol. 9, No. 2, Summer 1978

Benbow, R. F. A New Approach for Analysis and Control of the Yield from Commercial Customers.

Hobson, H. A.; Masten, J. T. and Severiens, J. T. Holding Company Acquisitions and Bank Performance: A Comparative Study.

Kaufman, G. G. Measuring Risk and Return for Bonds: A New Approach.

Lewin, W. B. The Check Collection System: Present and Future Status.

Mears, P.; McCarty, D. E. and Osborn, R. An Empirical Investigation of Banking Customers' Perception of Bank Machines.

Ricketts, D. and Stover, R. An Examination of Commercial Bank Financial Ratios.

Roering, K. J. and Smith, P. E. A Distributed Lag Forecasting Model for Bank Loans and the Money Supply.

Trolle-Schultz, E. International Money Transfer Developments.

Winningham, S. More on the Alleged Profitability of Borrowing at 8% to Lend at 6%

Journal of Bank Research, Vol. 9, No. 3, Autumn 1978

Arditti, F. D. Interest Rate Futures: An Intermediate Stage Toward Efficient Risk Reallocation.

Dufey, G. and Giddy, I. H. Measuring the Eurocurrency Market.

Durand, R. M.; Eckrich, D. W. and Sprecher, C. R. Bank Image: An Adequacy-Importance Approach.

Dyl, E. A. The Marginal Cost of Funds Controversy.

Gardener, E. P. M. Capital Adequacy and Bank Prudential Regulation.

Lackman, C. L. and Minami, W. N. Market Profiles by Lending Institution.

Morris, R. D. An Empirical Analysis of Costs and Revenue Requirements for Point-of-Sale EFTS.

Reynolds, F. D. and Wells, W. D. Life Style Analysis: A Dimension for Future-Oriented Bank Research.

Smith, T. R. and Martin, D. The Determinants of Manpower Costs in the Examination of Banks in the Second Federal Reserve District.

Journal of Bank Research, Vol. 9, No. 4, Winter 1979

Eatman, J. L. and Sealey, C. W., Jr. A Multiobjective Linear Programming Model for Commercial Bank Balance Sheet Management.

Evans, R. H. Bank Selection: It All Depends on the Situation.

Firth, M. Qualified Audit Reports and Bank Lending Decisions.

McAlister, M. K. and Overstreet, G. A. Comparative Job Satisfaction Levels among Bank Managers.

Miller, R. J. A Note on the Cost Analysis of a Commercial Bank Regulatory Agency as a Multiproduct Firm: Implications for Regulatory Reorganization.

Murphy, N. B. and Mandell, L. Reforming the Structure and Regulation of Financial Institutions: The Evidence from the State of Maine.

Schweitzer, P. and Greene, J. Determinants and Consequences of Market Entry: A Case Study of Two Wisconsin Banking Markets.

Journal of Business, Vol. 52, No. 1, January 1979

• **Ambrose, D. M.** Retail Grocery Pricing: Inner City, Suburban and Rural Comparisons.

• **Anderson, E. E.** An Analysis of Retail Display Space: Theory and Methods.

• **Brennan, M. J. and Schwartz, E. S.** Alternative Investment Strategies for the Issuers of Equity Linked Life Insurance Policies with an Asset Value Guarantee.

Brock, G. W. A Study of Prices and Market Shares in the Computer Mainframe Industry: Comment.

• **Cox, J. C.; Ingersoll, J. E., Jr. and Ross, S. A.** Duration and the Measurement of Basis Risk.

Ratchford, B. T. and Ford, G. T. A Study of Prices and Market Shares in the Computer Mainframe Industry: Reply.

• **Wecker, W. E.** Predicting the Turning Points of a Time Series.

• **Zarnowitz, V.** An Analysis of Annual and Multiperiod Quarterly Forecasts of Aggregate Income, Output, and the Price Level.

Journal of Developing Areas, Vol. 12, No. 2, January 1978

DeLancey, M. W. Institutions for the Accumulation and Redistribution of Savings among Migrants.

Glezakos, C. Inflation and Growth: A Reconsideration of the Evidence from the LDCs.

Hunter, J. M. and Ntiri, G. K. Speculations on the Future of Shifting Agriculture in Africa.

Porzecanski, A. C. A Comparative Study of Exchange Rate Policy under Inflation.

Journal of Development Economics, Vol. 5, No. 4, December 1978

Bacha, E. L. An Interpretation of Unequal Exchange from Prebisch-Singer to Emmanuel.

Bliss, C. and Stern, N. Productivity, Wages and Nutrition: Part I: The Theory.

Bliss, C. and Stern, N. Productivity, Wages and Nutrition: Part II: Some Observations.

Fry, M. J. The Permanent Income Hypothesis in Underdeveloped Economies: Additional Evidence.

Journal of Development Studies, Vol. 15, No. 1, October 1978

Bhattacharyya, A. K. Irrigation and Water Management by the Damodar Valley Corporation.
Harriss, B. Allocation, Location and Dislocation in Non-Market Rice Distribution.
Hecht, R. The Rise of Radical African Studies: Review Article.
Hodd, M.; House, W. J. and Killick, T. Income Distribution in Kenya: A Controversy Resolved.
Hunt, D. Chayanov's Model of Peasant Household Resource Allocation and Its Relevance to Mbere Division, Eastern Kenya.
Newlyn, W. T. Interpreting Polak: Monetary Analysis in 'Dependent' Economies: A Comment.
O'Donnell, G. State and Alliances in Argentina, 1956–1976.
Ranaweera, T. W. Y. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): A Rejoinder.
Ranaweera, T. W. Y. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): A Comment.
de Silva, K. E. A. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): Reply.

Journal of Econometrics, Vol. 9, No. 1/2, January 1979

Aigner, D. J. Bayesian Analysis of Optimal Sample Size and a Best Decision Rule for Experiments in Direct Load Control.
Atkinson, S. E. Responsiveness to Time-of-Day Electricity Pricing: First Empirical Results.
Dansby, R. E. Multi-Period Pricing with Stochastic Demand.
Granger, C. W. J., et al. Residential Load Curves and Time-of-Day Pricing: An Econometric Analysis.
Hendricks, W.; Koenker, R. and Poirer, D. J. Residential Demand for Electricity: An Econometric Approach.
Koenker, R. Optimal Peak Load Pricing with Time-Additive Consumer Preferences.
Lawrence, A. and Braithwait, S. The Residential Demand for Electricity with Time-of-Day Pricing.
Panzar, J. C. and Willig, R. D. Theoretical Determinants of the Industrial Demand for Electricity by Time of Day.
Parzen, E. and Pagano, M. An Approach to Modeling Seasonally Stationary Time Series.
Spann, R. M. and Beauvais, E. C. Econometric Estimation of Peak Electricity Demands.
Taylor, L. D. On Modelling the Residential Demand for Electricity by Time-of-Day.
Uri, N. D. A Mixed Time-Series/Econometric Approach to Forecasting Peak System Load.

Journal of Economics and Business, Vol. 31, No. 2, Winter 1979

Eldor, D.; Shami, C. H. and Sudit, E. F. Production-Cost Elasticities in Product and Factor Markets: The Case of Telecommunications.
Ferri, M. G. The Interest Elasticity of Corporate Bond Supply: An Expectational Model.
Friedman, P.; Berg, S. V. and Duncan, J. External vs. Internal Knowledge Acquisition: Joint Venture Activity and R&D Intensity.
Herzig-Marx, C. Holding Company Affiliation and Long-Run Deposit Variability.
Longbrake, W. A. and Peterson, M. O. Regional and Intra-Regional Variations in Mortgage Loan Rates.
Miller, R. J. The Dynamic Properties of a Two Region Model of the Regional Impact of Monetary Policy in the United States.
Ofek, H. Indexation of Contractual and Regulated Prices: A Methodology of Microindexation.
Rudolph, P. M. Some Industry Effects on the Balance Sheet Structure of Manufacturers: 1964–1974.
Scott, R. H. A Note on Rents, Royalties, Leases, and Cost-Plus Contracts.
Sealey, C. W., Jr. Interest-Bearing Demand Deposits, Bank Cost and Economic Efficiency.

Journal of Economic Development, Vol. 3, No. 1, July 1978

Chung, J. W. International Transactions and Domestic Cyclical Behavior.
Day, R. H. and Fan, Y.-K. Adaptive Economics and Economic Development.
von Hauenschield, G. and Grub, P. D. International Tourism as a Factor in Economic Development for the L.D.C.'s.
Kim, D. Sources of Overtime Changes in the Rural-Urban Gap and the Intrafarm Inequality of Income in Korea.
Kim, P. J. Transactions Demand for Money: An Adaptation to Less Developed Countries.
Lee, Y. S. The INFORUM Type Input-Output Forecasting Model.
Meyer, R. L. and Larson, D. W. Rural Nonfarm Employment: The Recent East Asian Experience.
Uri, N. D. Marginal Cost Pricing with Joint Cost: A Different Objective.

Waters, A. R. Working Capital and Technological Change.

Journal of Economic History, Vol. 39, No. 1, March 1979

Adams, J. and West, R. C. Money, Prices, and Economic Development in India, 1861–1895.

Adelman, I. and Morris, C. T. The Role of Institutional Influences in Patterns of Agricultural Development in the Nineteenth and Early Twentieth Centuries: A Cross-Section Quantitative Study.

Anderson, T. L. Economic Growth in Colonial New England: "Statistical Renaissance"

Brown, S. R. The Transfer of Technology to China in the Nineteenth Century: The Role of Direct Foreign Investment.

Brownlee, W. E. Household Values, Women's Work, and Economic Growth, 1800–1930.

Coelho, P. R. P. and Shepherd, J. F. The Impact of Regional Differences in Prices and Wages on Economic Growth: The United States in 1890.

David, P. A. American Growth before 1840: Comment.

Feeny, D. Competing Hypotheses of Underdevelopment: A Thai Case Study.

Fleming, W. J. The Cultural Determinants of Entrepreneurship and Economic Development: A Case Study of Mendoza Province, Argentina, 1861–1914.

Fogel, R. W. Notes on the Social Saving Controversy.

Gallman, R. E. American Growth before 1840: Comment.

Haeger, J. D. Eastern Financiers and Institutional Change: The Origins of the New York Life Insurance and Trust Company and the Ohio Life Insurance and Trust Company.

Huertas, T. F. Damnifying Growth in the Antebellum South.

Kulikoff, A. The Economic Growth of the Eighteenth-Century Chesapeake Colonies.

Libecap, G. D. and Johnson, R. N. Property Rights, Nineteenth-Century Federal Timber Policy, and the Conservation Movement.

Lindstrom, D. American Economic Growth before 1840: New Evidence and New Directions.

McAlpin, M. B. Dearth, Famine, and Risk: The Changing Impact of Crop Failures in Western India, 1870–1920.

Parker, W. N. Governmental Institutions and Economic Growth: Discussion.

Roberts, C. A. Interregional Per Capita Income Differentials and Convergence: 1880–1950.

Sandberg, L. G. The Case of the Impoverished Sophisticate: Human Capital and Swedish Economic Growth before World War I.

Journal of Economic Issues, Vol. 13, No. 1, March 1979

• **Field, A. J.** On the Explanation of Rules Using Rational Choice Models.

Hunt, E. K. The Importance of Thorstein Veblen for Contemporary Marxism.

Kisch, H. Joseph Alois Schumpeter.

Lowry, S. T. A Nightmare in Introductory Economics.

Rashid, S. Richard Jones and Baconian Historicism at Cambridge.

Sherman, H. J. "Technology *vis-a-vis* Institutions": A Marxist Commentary.

• **Ulmer, M. J.** Old and New Fashions in Employment and Inflation Theory.

• **Wisman, J. D.** Toward a Humanist Reconstruction of Economic Science.

• **Yunker, J. A.** The Microeconomic Efficiency Argument for Socialism Revisited.

Journal of Economic Literature, Vol. 17, No. 1, March 1979

Leff, N. H. Entrepreneurship and Economic Development: The Problem Revisited.

Lowry, S. T. Recent Literature on Ancient Greek Economic Thought.

Sen, A. The Welfare Basis of Real Income Comparisons: A Survey.

Journal of Economic Studies, Vol. 5, No. 2, November 1978

Bray, J. Reply to John Naughton [The Logic of Scientific Method in Economics].

Bray, J. Reply to J. G. Meeks [Bray on Keynes on Scientific Method].

Meeks, J. G. Bray on Keynes on Scientific Method: A Comment.

Naughton, J. The Logic of Scientific Method in Economics: A Response to Bray.

Platts, A. R. The Use of the Measures of Economic Surplus in Cost-Benefit Analysis.

Ulph, A. and Smith, B. Illustrations of Some Propositions on Producer Taxation.

Zaki, M. Y. Customs Union and the Estimation of the Import Leakage Effect.

Journal of Economic Theory, Vol. 19, No. 1, October 1978

• **Aarrestad, J.** Optimal Savings and Exhaustible Resource Extraction in an Open Economy.

Blad, M. C. On the Speed of Adjustment in the Classical Tatonnement Process: A Limit Result.

Crémer, J. A Comment on "Decentralized Planning and Increasing Returns"

• **Dechert, D.** Optimal Control Problems from Second-Order Difference Equations.

• **Epstein, L. G.** The Le Chatelier Principle in Op-

timal Control Problems.

• Färe, R. and Lovell, C. A. K. Measuring the Technical Efficiency of Production.

• Fishburn, P. C. Axioms for Approval Voting: Direct Proof.

• Gehrlein, W. V. and Fishburn, P. C. Probabilities of Election Outcomes for Large Electorates.

• Gerard-Varet, L. A. and Moulin, H. Correlation and Duopoly.

Goldman, S. M. and Sussangkarn, C. On the Concept of Fairness.

• Grandmont, J.-M.; Laroque, G. and Younès, Y. Equilibrium with Quantity Rationing and Recontracting.

• Hoel, M. Resource Extraction, Substitute Production, and Monopoly.

Kalai, E.; Postlewaite, A. and Roberts, J. Barriers to Trade and Disadvantageous Middlemen: Nonmonotonicity of the Core.

• Richter, D. K. The Computation of Urban Land Use Equilibria.

• Rossman, M. and Selden, L. Time Preferences, Conditional Risk Preferences, and Two-Period Cardinal Utility.

Sandberg, I. W. A Criterion for the Global Stability of a Price Adjustment Process.

Journal of Energy and Development, Vol. 4, No. 1, Autumn 1978

Attiga, A. A. The Impact of Energy Transition on the Oil-Exporting Countries.

Campbell, T. C. and Hwang, M. Spatial Analysis and the Identification of Coal Markets.

Davis, D. H. Establishing the Department of Energy.

Houthakker, H. S. and Kennedy, M. Long-Range Energy Prospects.

Ikuta, T. Stable Growth and Energy Strategy: Two Approaches.

Mossavar-Rahmani, B. Hedging against the Energy Crunch: Two Perspectives.

Ramsay, W. Second Thoughts about the Energy Crisis.

Rose, A.; Edmunds, S. and Lofting, E. The Economics of Geothermal Energy Development at the Regional Level.

Journal of Environmental Economics and Management, Vol. 5, No. 4, December 1978

Hamlen, W. A., Jr. The Optimality and Feasibility of Uniform Air Pollution Controls.

Harrison, D., Jr. and Rubinfeld, D. L. The Distribution of Benefits from Improvements in Urban Air Quality.

Muskin, J. B. and Sorrentino, J. A., Jr. An "Effluent" Charge Approach to Aircraft Noise Abatement.

Page, W. P. and Fellner, W. Exploratory Techniques for the Determination of Potential Dose-Response Relationships between Human Health and Air Pollution.

Porter, R. C. A Social Benefit-Cost Analysis of Mandatory Deposits on Beverage Containers.

Journal of Finance, Vol. 34, No. 1, March 1979

• Aivazian, V. A. and Callen, J. L. Investment, Market Structure, and the Cost of Capital.

Alexander, G. J.; Stover, R. D. and Kuhnau, D. B. Market Timing Strategies in Convertible Debt Financing.

Ball, R. and Watts, R. Some Additional Evidence on Survival Biases.

• Baron, D. P. Investment Policy, Optimality, and the Mean-Variance Model: Review Article.

Berger, P. D. and Bodie, Z. Portfolio Selection in a "Winner-Take-All" Environment.

Blume, M. E. Betas and Their Regression Tendencies: Some Further Evidence.

Brennan, M. J. The Pricing of Contingent Claims in Discrete Time Models.

• Copeland, T. E. Liquidity Changes Following Stock Splits.

• Ederington, L. H. The Hedging Performance of the New Futures Markets.

Elgers, P. T.; Haltiner, J. R. and Hawthorne, W. H. Beta Regression Tendencies: Statistical and Real Causes.

• Graddy, D. B. and Kyle, R., III. The Simultaneity of Bank Decision-making, Market Structure, and Bank Performance.

Grauer, F. L. A. and Litzenberger, R. H. The Pricing of Commodity Futures Contracts, Nominal Bonds a Other Risky Assets under Commodity Price Uncertainty.

• Hamilton, J. L. Marketplace Fragmentation, Competition, and the Efficiency of the Stock Exchange.

• Hilliard, J. E. The Relationship between Equity Indices on World Exchanges.

• Kane, E. J. and Buser, S. A. Portfolio Diversification at Commercial Banks.

• Levi, M. D. and Makin, J. H. Fisher, Phillips, Friedman and the Measured Impact of Inflation on Interest.

Livingston, M. A Note on the Issuance of Long-Term Pure Discount Bonds.

• Livingston, M. B. Bond Taxation and the Shape of the Yield-to-Maturity Curve.

• Manaster, S. Real and Nominal Efficient Sets.

Scott, J. H., Jr. Bankruptcy, Secured Debt, and Optimal Capital Structure: Reply.

Selby, E. B., Jr. The Recognition Lag of the Federal Advisory Council.

Smith, C. W., Jr. and Warner, J. B. Bankruptcy,

Secured Debt, and Optimal Capital Structure: Comment.

Journal of Financial Economics, Vol. 6, No. 1, March 1978

Dothan, L. U. On the Term Structure of Interest Rates.

• **Garman, M. B.** The Pricing of Supershares.

Gleit, A. Valuation of General Contingent Claims: Existence, Uniqueness, and Comparisons of Solutions.

Grauer, R. R. Generalized Two Parameter Asset Pricing Models: Some Empirical Evidence.

• **Richard, S. F.** An Arbitrage Model of the Term Structure of Interest Rates.

Journal of Financial Economics, Vol. 6, No. 2/3, June/September 1978

• **Ball, R.** Anomalies in Relationships between Securities' Yields and Yield-Surrogates.

• **Charest, G.** Split Information, Stock Returns and Market Efficiency-I.

Charest, G. Dividend Information, Stock Returns and Market Efficiency-II.

• **Chiras, D. P. and Manaster, S.** The Information Content of Option Prices and a Test of Market Efficiency.

• **Galai, D.** Empirical Tests of Boundary Conditions for CBOE Options.

Jensen, M. C. Some Anomalous Evidence Regarding Market Efficiency.

• **Long, J. B., Jr.** The Market Valuation of Cash Dividends: A Case to Consider.

• **Thompson, R.** The Information Content of Discounts and Premiums on Closed-End Fund Shares.

• **Watts, R. L.** Systematic 'Abnormal' Returns after Quarterly Earnings Announcements.

Journal of Financial and Quantitative Analysis, Vol. 13, No. 4, November 1978

Babcock, G. C. Duration and Bond Portfolio Analysis: Comment.

Bierwag, G. O.; Kaufman, G. G. and Khang, C. Duration and Bond Portfolio Analysis: An Overview.

Carleton, W. T. Duration and Security Risk: Discussion.

Clarke, R. G. The Impact of a Fuel Adjustment Clause on the Regulated Firm's Value and Cost of Capital.

Cootner, P. H. `Capital Asset Pricing in a General Equilibrium Framework.

Craine, R. N. and Pierce, J. L. Interest Rate Risk.

Draper, D. W. and Hoag, J. W. Financial Intermediation and the Theory of Agency.

Ingersoll, J. E., Jr.; Skelton, J. and Weil, R. L. Duration Forty Years Later.

Kane, E. J. Duration and Portfolio Strategy: Discussion.

Lanstein, R. and Sharpe, W. F. Duration and Security Risk.

Machado, E. L. and Carleton, W. T. Financial Planning in a Regulated Environment.

MacLaury, B. K. OPEC Surpluses and World Financial Stability.

Maisel, S. J. and Jacobson, R. Interest Rate Changes and Commercial Bank Revenues and Costs.

Petry, G. H. and Fuller, R. J. The Geographic Distribution of Papers at the Seven Academic Finance Associations in the United States.

Ross, S. A. Capital Asset Pricing in a General Equilibrium Framework: Comment.

Sharpe, W. F. Bank Capital Adequacy, Deposit Insurance and Security Values.

Journal of Financial and Quantitative Analysis, Vol. 13, No. 5, December 1978

Beranek, W. Some New Capital Budgeting Theorems.

Bernhard, R. H. Some New Capital Budgeting Theorems: Comment.

Brick, J. R. and Thompson, H. E. The Economic Life of an Investment and the Appropriate Discount Rate.

Cramer, R. H. and Miller, R. B. Multivariate Time Series Analysis of Bank Financial Behavior.

Elliott, J. W. The Expected Return to Equity and International Asset Prices.

Gregory, D. D. Multiplicative Risk Premiums.

Haley, C. W. and Schall, L. D. Problems with the Concept of the Cost of Capital.

Hurtado-Sanchez, L. Short Interest: Its Influence as a Stabilizer of Stock Returns.

Kim, E. H.; Lewellen, W. G. and McConnell, J. J. Sale-and-Leaseback Agreements and Enterprise Valuation.

Miller, R. E. and Gehr, A. K. Sample Size Bias and Sharpe's Performance Measure: A Note.

Parker, G. G. C. and Cooperman, D. Competitive Bidding in the Underwriting of Public Utility Securities.

Simkowitz, M. A. and Beedles, W. L. Diversification in a Three-Moment World.

Solnik, B. H. Inflation and Optimal Portfolio Choices.

Journal of Industrial Economics, Vol. 27, No. 2, December 1978

Carter, C. [Sir] Some Problems of the British Post Office.

Edwards, F. R. and Stevens, B. J. The Provision of Municipal Sanitation Services by Private Firms: An Empirical Analysis of the Efficiency of Alternative Market Structures and Regulatory Arrangements.

Endres, A. Monopoly-Power as a Means for Pollution-Control?

Fethke, G. C. and Currie, K. A. Growth of Firms, Capital Market Uncertainty and Managerial Tenure.

Knapp, M. R. J. Economies of Scale in Sewage Purification and Disposal.

Pickering, J. F. The Abandonment of Major Mergers in the U.K., 1965–75.

Storey, D. J. Market Structure and Externalities: The Case of Water Pollution in England and Wales.

Journal of International Business Studies, Vol. 9, No. 2, Fall 1978

Choi, F. D. S.; Lowe, H. D. and Worthley, R. G. Accountors, Accountants, and Standard No. 8.

Cornell, W. B. Determinants of the Bid-Ask Spread on Forward Foreign Exchange Contracts under Floating Exchange Rates.

Deakin, E. B. and Smith, C. H. The Impact of Earnings Information on Selected Foreign Securities Markets.

Gray, S. J. Managerial Forecasts and European Multinational Company Reporting.

Kohlhagen, S. W. A Model of Optimal Foreign Exchange Hedging without Exchange Rate Projections.

Panton, D. B. and Joy, O. M. Empirical Evidence on International Monetary Market Currency Futures.

Rogalski, R. J. and Vinso, J. D. Empirical Properties of Foreign Exchange Rates.

Shapiro, A. C. Payments Netting in International Cash Management.

Stanley, M. T. and Block, S. B. Response by United States Financial Managers to Financial Accounting Standard No. 8.

Journal of International Economics, Vol. 9, No. 1, February 1979

Clarke, H. R. and Kingston, G. H. The Optimal Crawl: A Comment.

• **Ethier, W.** Internationally Decreasing Costs and World Trade.

Ethier, W. and Ray, A. Gains from Trade and the Size of a Country, II.

• **Fair, R. C.** A Model of the Balance of Payments.

• **Fishelson, G. and Hillman, A. L.** Domestic Monopoly and Redundant Tariff Protection.

• **Hartwick, J. M.** Distribution of World Income in the Ricardo-Mill Model of International Trade.

• **Johnson, R. R.** The Effect of Variation in Foreign Production on Domestic Factor Prices.

• **Levin, J. H.** The International Assignment of Stabilization Policies under Fixed and Flexible Exchange Rates.

Mathieson, D. J. The Optimal Crawl: A Reply.

van Nieuwkerk, M. The Covering of Exchange Risks in the Netherlands' Foreign Trade: A Note.

• **Schweinberger, A. G.** The Theory of Factor Price Differentials: The Case of Constant Absolute Differentials.

• **Tarr, D. G.** Cyclical Dumping: The Case of Steel Products.

Journal of Money, Credit, and Banking, Vol. 11, No. 1, February 1979

Cornell, B. Do Money Supply Announcements Affect Short-Term Interest Rates? A Note.

• **Gultekin, B. and Santomero, A. M.** Indexation, Expectations, and Stability.

Hamburger, M. J. and Zwick, B. The Efficacy of Selective Credit Policies: An Alternative Test: A Note.

Laufenberg, D. E. Optimal Reserve Requirement Ratios against Bank Deposits for Short-Run Monetary Control: A Note.

Luan, D. C. and Miller, N. C. A Monetary Approach to International Capital Flows Applied to the United States: A Note.

Michael, R. T. Variation across Households in the Rate of Inflation.

Murphy, N. B. and Mandell, L. Consumer Response to Restructured Financial Institutions: The Case of Maine: A Note.

• **Saving, T. R.** Money Supply Theory with Competitively Determined Deposit Rates and Activity Charges.

• **Smith, G. and Starnes, W.** A Short-Run Two-Sector Model with Immobile Capital.

• **Tullio, G.** Monetary Equilibrium and Balance-of-Payments Adjustment: An Empirical Test of the U.S. Balance of Payments, 1951–73.

Vrooman, J. Does the St. Louis Equation Even Believe in Itself? A Comment.

Journal of Political Economy, Vol. 87, No. 1, February 1979

• **Arnott, R. J. and Lewis, F. D.** The Transition of Land to Urban Use.

• **Bailey, M. J.** The Possibility of Rational Social Choice in an Economy.

• **Crawford, V. P.** On Compulsory-Arbitration Schemes.

• **Figlewski, S.** Subjective Information and Market Efficiency in a Betting Market.

Heckman, J. J. and Willis, R. J. Reply to Mincer and Ofek [The Distribution of Lifetime Labor Force Participation of Married Women].

• **Heller, H. R. and Khan, M. S.** The Demand for Money and the Term Structure of Interest Rates.

• **Karni, E.** On the Specification of Asset Equilibrium in Macroeconomic Models: A Note.

Katz, E. A Note on Uncertain Lifetimes.

• **Kiefer, N. M. and Neumann, G. R.** An Empirical Job-Search Model, with a Test of the Constant Reservation-Wage Hypothesis.

• **McCallum, B. T.** Monetarism, Rational Expectations, Oligopolistic Pricing, and the MPS Econometric Model.

Mincer, J. and Ofek, H. The Distribution of Lifetime Labor Force Participation of Married Women: Comment.

• **Stern, R. M.; Baum, C. F. and Greene, M. N.** Evidence on Structural Change in the Demand for Aggregate U.S. Imports and Exports.

• **Thompson, E. A.** An Economic Basis for the "National Defense Argument" for Aiding Certain Industries.

Journal of Portfolio Management, Vol. 5, No. 2, Winter 1979

Dawson, F. S. Risks and Returns in Continuous Option Writing.

Eisenstadt, S. How Good Is Investment Advice for Individuals?

Eubank, A. A., Jr. and Zumwalt, J. K. How to Determine the Stability of Beta Values.

Ferri, M. G. How Do Call Provisions Influence Bond Yields?

Grube, R. C.; Panton, D. B. and Terrell, J. M. Risks and Rewards in Covered Call Positions.

Hakala, D. R. and Huggins, K. M. Has ERISA Had an Impact on Pension Investing?

Logue, D. E. and Rogalski, R. J. Offshore Alphas: Should Diversification Begin at Home?

Massey, P. H. The Mutual Fund Liquidity Ratio: A Trap for the Unwary.

Mennis, E. A. A New Method for Evaluating Pension Fund Portfolios.

Peterson, D. M. Know Your Investment Philosophy!

Reilly, F. K. and Wachowicz, J. M., Jr. How Institutional Trading Reduces Market Volatility.

Roulac, S. E. Real Estate Appraisals: Critique and Analysis.

Stone, J. R. A Winning Strategy for an Efficient Market.

Trainer, F. H., Jr.; Yawitz, J. B. and Marshall, W. J. Holding Period Is the Key to Risk Thresholds.

Vignola, A. J. and Dale, C. J. Is the Futures Market for Treasury Bills Efficient?

Journal of Post Keynesian Economics, Vol. 1, No. 2, Winter 1978–79

• **Balogh, T.** Monetarism and the Oil Price Crisis.

• **Davidson, P.** The United States Internal Revenue Service: Fourteenth Member of OPEC?

• **Elliott, J. E.** Marx's *Grundrisse:* Vision of Capitalism's Creative Destruction.

• **Issawi, C.** The 1973 Oil Crisis and After.

Katsenelinboigen, A. L. V. Kantorovich: The Political Dilemma in Scientific Creativity.

• **Katzner, D. W.** On not Quantifying the Nonquantifiable.

• **Moore, B. J.** Life-Cycle Saving and Bequest Behavior.

• **Seton, F.** Devaluation Packages in Small Countries.

• **Weintraub, S.** The Missing Theory of Money Wages.

Weintraub, S. Samuel Johnson: A Closet Post Keynesian?

Journal of Public Economics, Vol. 10, No. 3, December 1978

Baily, M. N. Some Aspects of Optimal Unemployment Insurance.

Boskin, M. J. and Hurd, M. D. The Effect of Social Security on Early Retirement.

• **Diamond, P. A. and Mirrlees, J. A.** A Model of Social Insurance with Variable Retirement.

• **Feldstein, M.** Do Private Pensions Increase National Savings?

• **Flemming, J. S.** Aspects of Optimal Unemployment Insurance: Search, Leisure, Savings and Capital Market Imperfections.

Sheshinski, E. A Model of Social Security and Retirement Decisions.

Spence, M. Product Differentiation and Performance in Insurance Markets.

Journal of Public Economics, Vol. 11, No. 1, February 1979

d'Aspremont, C. and Gérard-Varet, L.-A. Incentives and Incomplete Information.

Bhatia, K. B. Corporate Taxation, Retained Earnings, and Capital Formation.

Boadway, R. W. and Bruce, N. Depreciation and Interest Deductions and the Effect of the Corporation Income Tax on Investment.

Chapman, R. and Waverman, L. Risk Aversion, Uncertain Demand and the Effects of a Regulatory Constraint.

Cook, P. J. The Clearance Rate as a Measure of Criminal Justice System Effectiveness.

• **Cordes, J. J. and Weisbrod, B. A.** Governmental Behavior in Response to Compensation Requirements.

Feldman, A. and Weiman, D. Envy, Wealth, and Class Hierarchies.

• **Rosen, H. S.** Housing Decisions and the U.S. Income Tax: An Econometric Analysis.

Smith, G. The Long Run Consequences of Monetary and Fiscal Policies When the Government's Budget is not Balanced.

Journal of Regional Science, Vol. 19, No. 1, February 1979

Bearse, P. Toward a National Urban Policy—Critical Reviews: Influencing Capital Flows for Urban Economic Development: Incentives or Institution Building?

Goldsmith, W. W. and Derian, M. J. Toward a National Urban Policy—Critical Reviews: Is There an Urban Policy?

Hirschhorn, L. Toward a National Urban Policy—Critical Reviews: The Urban Crisis: A Post-Industrial Perspective.

Inman, R. P. Toward a National Urban Policy—Critical Reviews: Federal Policy and the Urban Poor.

• **Kau, J. B. and Sirmans, C. F.** A Recursive Model of the Spatial Allocation of Migrants.

• **Latham, W. R.; Lewis, K. A. and Landon, J. H.** Regional Econometric Models: Specification and Simulation of a Quarterly Alternative for Small Regions.

• **Mulligan, G. F.** Additional Properties of a Hierarchical City-Size Model.

• **Roberts, R. B. and Fishkind, H.** The Role of Monetary Forces in Regional Economic Activity: An Econometric Simulation Analysis.

• **Smith, T. R.** Migration, Risk Aversion, and Regional Differentiation.

Vining, D. R., Jr. Towards a National Urban Policy—Critical Reviews: The President's National Urban Policy Report: Issues Skirted and Statistics Omitted.

Journal of Royal Statistical Society, Series A, Vol. 141, Part 4, 1978

Fessey, M. C. Business Statistics: A Decade of Central Collection.

Kemp, C. D. and Loukas, S. The Computer Generation of Bivariate Discrete Random Variables.

Journal of Urban Economics, Vol. 6, No. 1, January 1979

Arnott, R. Optimal City Size in a Spatial Economy.

Clapp, J. M. The Substitution of Urban Land for Other Inputs.

Engle, R. F. Estimation of the Price Elasticity of Demand Facing Metropolitan Producers.

Hanushek, E. A. and Quigley, J. M. The Dynamics of the Housing Market: A Stock Adjustment Model of Housing Consumption.

Hartwick, J. M. Optimal Scale in a Large Homogeneous Area.

Kau, J. B. and Sirmans, C. F. Urban Land Value Functions and the Price Elasticity of Demand for Housing.

McDonald, J. F. and Bowman, H. W. Land Value Functions: A Reevaluation.

Mills, D. E. Interdependencies and the Urban Land Market.

Journal of World Trade Law, Vol. 13, No. 2, March–April 1979

Chard, J. S. and Macmillen, M. J. Sectoral Aids and Community Competition Policy: The Case of Textiles.

Helleiner, G. K. Lomé: Market Access and Industrial Co-operation.

Kapoor, M. C. and Saxena, R. Taming the Multinationals in India.

Mingst, K. A. Economic Determinants of International Commodity Regulations.

Scriven, J. G. Yugoslavia's New Foreign Investment Law.

Sornarajah, M. Compensation for Expropriation: The Emergence of New Standards.

Wassermann, U. Pharmaceuticals for the Fourth World.

Kansantaloudellinen Aikakauskirja, Vol. 74, No. 1, 1978

Airikkala, R. Suomen Pankin rahapolitiikan teoreettisista perusteista. (Theoretical Justifications for Monetary Policy in Finland. With English summary.)

Bingham, T. R. G. Economic Growth and the Efficiency of Investment: A Cross-country Comparison.

Mutikainen, T. and Mytty, I. Suhdanneindikaattorit lyhyen aikavälin ennustamisessa. (The Use of Cyclical Indicators in Short-Term Forecasting. With English summary.)

Paavela, P. Finanssi- ja rahapolitikan mahdollisuuksista kansantalouden elvyttämisessä. (The Use of Fiscal and Monetary Policy Measures to Stimulate the Economy. With English summary.)

Paunio, J. Taloudellisen aktiviteetin lisääminen ilman inflaatiota. (Expansions without Inflation. With English summary.)

Kansantaloudellinen Aikakauskirja, Vol. 74, No. 2, 1978

Heinonen, M. Alkohlijuomien ekonometrinen kulutustutkimus. (An Econometric Study of the

Consumption of Alcoholic Beverages. With English summary.)

Korpelainen, L. Työvoimapolitiikan vaihtoehdot. (Alternative Manpower Policy Strategies. With English summary.)

Pekkarinen, J. Keynesiläinen suhdanneajattelu ja suomalainen suhdannekuva. (Keynesianism and the Finnish Conventional Wisdom in Stabilization Policy. With English summary.)

Roslin, B. Tuotekehitys epävarmuuden aikaan. (Product Development in Conditions of Uncertainty. With English summary.)

Viita, P. Työmotivaatio tuotannon edellytyksenä. (Motivation at Work. With English summary.)

Kansantaloudellinen Aikakauskirja, Vol. 74, No. 3, 1978

Airaksinen, T. Kannattavuuden mittaamisesta tekstiiliteollisuudessa. (Measurement of Profitability in the Textile Industry. With English summary.)

Carlson, C. E. Kannattavuuskehitys ja teollinen kasvustrategiamme. (The Profitability of Finnish Industry and Its Growth Strategy. With English summary.)

Kauppinen, T. Suomen työmarkkinajärjestöjen voimasuhteista. (Labour Markets Organizations in Finland. With English summary.)

Kavonius, M. Metalliteollisuuden kannattavuusrakenne. (The Profitability of the Metal Industry. With English summary.)

Koskumäki, O. Julkinen sektori kansantaloustieteellisen tutkimuksen kohteena. (Public Sector as a Field of Economic Research. With English summary.)

Lindblom, S. Suhdanne- ja rakennepolitiikan tavoitteenasettelu hitaan kasvun vallitessa. (The Setting of Targets for Structural Counter-Cyclical Policies under Slow Economic Growth. With English summary.)

Ylä-anttila, P. Suomen ja Ruotsin metsateollisuuden yrityskohtainen kannattavuus vuosina 1971–1976. (Probability of Finnish and Swedish Forest Industry Firms in 1971–1976. With English summary.)

Kokumin-Keizai Zasshi, Vol. 138, No. 6, December 1978

Adachi, H. Microeconomic Foundations of Macroeconomic Theory—Post-Keynesian Approach: A Survey. (In Japanese.)

Ishii, T. Competition in Banking. (In Japanese.)

Mizoguchi, K. Performance Accounting; Its Subject and New Territory. (In Japanese.)

Mukai, T. The State and the Class in the Rational Economic System. (In Japanese.)

Takahashi, S. An Application of Marriage Model Schedule to Japanese Data—Estimation of Proportion of Ever-Married Women by Age and Fertility Rates of Married Women by Age and Marriage Duration. (In Japanese.)

Togami, H. Coinage in the Reign of King Athelstan. (In Japanese.)

Kokumin-Keizai Zasshi, Vol. 139, No. 1, January 1979

Mizushima, K. Efficiency and Public Interest in the Insurance Business. (In Japanese.)

Ohno, K. The Theory and Practice of Market Socialism: The Hungarian Case. (In Japanese.)

Sakakibara, S. A Test of the "Bigger Fool" Theory of Conglomerate Valuation. (In Japanese.)

Shimojo, T. A Behavioral Distribution Model on Freight Determining Process. (In Japanese.)

Yoshihara, H. Survey of Researches on Japanese Trading Companies (Sogoshosha). (In Japanese.)

Kokumin-Keizai Zasshi, Vol. 139, No. 2, February 1979

Amano, A. Imported Price Changes and Comparative Static Analyses under Alternative Exchange Rate Systems. (In Japanese.)

Maruya, R. Förderung der Vermögensbildung der Arbeitnehmer in der Bundesrepublik Deutschland. (In Japanese.)

Nojiri, T. Über die Begriffe der "Mischung" in den Theorien des gemischten Wirtschaftssystems. (In Japanese.)

Ono, J. The Price Formation of Option Contracts. (In Japanese.)

Takeda, R. Interdisciplinary Approach in the Accounting Theory. (In Japanese.)

Uchida, Y. On Uncoordinated Policies for Decentralized Systems. (In Japanese.)

Konjunkturpolitik, Vol. 24, No. 5/6, 1978

Clauss, F. J. Spar-Überschüsse und Einkommensverteilung. (Excessive Savings and Income Distribution. With English summary.)

Leipert, C. Zum Problem der wohlfahrtsbezogenen Einschätzung des Staatskonsums. (On the Problem of Public-Welfare-Related Evaluation of Government Consumption. With English summary.)

• **Rahmeyer, F.** Die Rolle des Staatssektors in der Marktwirtschaft—Zum ökonomischen Grundsatzkapitel des Gutachens der "Kommission für wirtschaftlichen and sozialen Wandel." (The Role of the Public Sector in the Market Economy—A Critique of the Principle Economic Chapter of the Report of the "Commission for Economic and Social Change" in the Federal Republic of Germany. With English summary.)

Vomfelde, W. Die Reaktion der Beschäftigung

auf Schwankungen des Produktionswachstums im produzierenden Gewerbe der Bundesrepublik. (The Reactions of Employment on Fluctuations of Production Growth on the Manufacturing Sector of the Federal Republic. With English summary.)

• Ziesing, H.-J. Zur längerfristigen Entwicklung der Stromnachfrage in der Bundesrepublik Deutschland. (Longer-Range Electricity Demand Development in the Federal Republic of Germany. With English summary.)

Kredit und Kapital, Vol. 12, No. 1, 1979

Dealtry, M. G. Die monetäre Rolle des Goldes. (The Monetary Role of Gold. With English summary.)

Frowen, S. F. and Kouris, G. The Existence of a World Demand for Money Function: A Reply.

Fuhrmann, W. Das heimische Geld- und Kreditangebot einer Euro-Währung. (The Domestic Money and Credit Supply of a Euro-Currency. With English summary.)

Pohl, R. Zentralbankgeldversorgung und Bruttosozialprodukt. (The Supply of Central Bank Money and Gross National Product. With English summary.)

Roskamp, K. W. A Neo-Classical Macro-Economic Model: Entrepreneurs Bankers, Innovations and Excess Profits.

Scheithauer, M. Die Oesterreichische Nationalbank im Spannungsfeld von Wachstum, Inflation und Rezession. (The Austrian National Bank under the Constraint of Growth, Inflation and Recession. With English summary.)

Sharpe, I. G. and Volker, P. A. The Impact of Institutional Changes on the Australian Short-Run Money Demand Function.

Zwass, A. Inwieweit transferierbar sind die RGW-Währungen? (How Transferable are Comecon Currencies? With English summary.)

Kyklos, Vol. 31, No. 4, 1978

Cebula, R. J. Migration and Welfare Benefit Levels: A Reply.

• **Cornwall, J.** Towards Full Employment and Price Stability: A Review of the OECD Report.

• **Driehuis, W.** Labour Market Imbalances and Structural Unemployment.

• **Dunning, J. H. and Stilwell, F. J. B.** Theories of Business Behaviour and the Distribution of Surplus Profits.

Kohn, R. Migration and Welfare Benefit Levels: A Comment.

Lattmann, C. Werturteile in den Sozialwissenschaften. Zu Ilmar Tammelos Buch "Theorie der Gerechtigkeit."

• ***Murray, T.; Schmidt, W. and Walter, I.*** *Alternative Forms of Protection against Market Disruption.*

• **Ng, Y.-K.** Economic Growth and Social Welfare: The Need for a Complete Study of Happiness.

Perelman, M. The Organic Composition of Capital: A Comment.

• **Pöll, G.** Anspruchsniveau und permanente frustration im verbrauchsverhalten. (With English summary.)

Robinson, J. The Organic Composition of Capital: A Reply.

• **Scaperlanda, A.** The IMF: An Emerging Central Bank?

Kyoto University Economic Review, Vol. 48, No. 1–2, April–October 1978

Kikuchi, K. Condition of the British Workers in the Latter Half of the Nineteenth Century.

Nakano, I. The Position and the Character of the Large-Scale Farming in the United States (I)—From Family Farms to Capitalistic Farms.

Ono, K. Japanese Capitalism and Foreign Trade, 1945–1970 (II)—Japanese Trade under the Fixed Exchange Rate System.

Labor History, Vol. 20, No. 1–2, Winter 1979

Brody, D. The Old Labor History and the New: In Search of an American Working Class.

Clive, A. Women Workers in World War II: Michigan as a Test Case.

Isserman, M. *An Exchange in the Rochester Workingman's Advocate: March, 1840.*

Morris, J. O. The Acquisitive Spirit of John Mitchell, UMW President (1899–1908)

Steffen, C. G. The Pre-Industrial Iron Worker: Northampton Iron Works, 1780–1820.

Tobin, E. M. Direct Action and Conscience: The 1913 Paterson Strike as Example of the Relationship between Labor Radicals and Liberals.

Land Economics, Vol. 54, No. 4, November 1978

Christopherson, D. A. A Status Group Dynamics Approach to Predicting Participation Rates in Regional Recreation Demand Studies: Comment.

• **Cocheba, D. J. and Langford, W. A.** Wildlife Valuation: The Collective Good Aspect of Hunting.

Colwell, P. F. and Sirmans, C. F. Area, Time, Centrality and the Value of Urban Land.

• **Fishkind, H. H.; Milliman, J. W. and Ellson, R. W.** A Pragmatic Econometric Approach to Assessing Economic Impacts of Growth or Decline in Urban Areas.

• **Hanushek, E. A. and Quigley, J. M.** An Explicit Model of Intra-Metropolitan Mobility.

- • **Murdock, S. H.; Wieland, J. S. and Leistritz, F. L.** An Assessment of the Validity of the Gravity Model for Predicting Community Settlement Patterns in Rural Energy-Impacted Areas of the West.
- **Oliveria, R. A.** Combining Forecasts to Predict Property Values for Single-Family Residences: Comment.
- • **Randall, A., et al.** Reclaiming Coal Surface Mines in Central Appalachia: A Case Study of the Benefits and Costs.
- • **Rosser, J. B., Jr.** The Theory of Policy Implications of Spatial Discontinuities in Land Values.
- **Weinberg, D. H.** Further Evidence on Racial Discrimination in Home Purchase.
- **West, P. C.** A Status Group Dynamics Approach to Predicting Participation Rates in Regional Recreation Demand Studies: Reply.
- **Wood, S. D.** Combining Forecasts to Predict Property Values for Single-Family Residences: Reply.

Liiketaloudellinen Aikakauskirja, Vol. 27, No. 4, 1978

- **Albach, H.** Missbrauch von Marktmacht—Betriebswirtschaftliche Problemeunbestimmter Rechtsbegriffe im Wettbewerbsrecht.
- **Elsaid, H. H. and Darling, J. R.** Keys to the Successful Penetration of the U.S. Market by Finnish Firms.
- **Hämäläinen, R. P.** Dynamic Game Theory and Economic Problems.
- **Kallio, T.** Kansainvälisestä pankkitoiminnasta ja pankkivalvonnasta. (International Banking Operations and Supervision of Banks. With English summary.)
- **Laakkonen, V. and Laurinkari, J.** Evaluation Principles of Cooperative Productivity and Profitability.
- **Möller, K.** Attitudinal and Social Influences on Color Television and Toothpaste Buying Intentions.

Management Accounting, Vol. 60, No. 8, February 1979

- **Boyles, J. V., III.** Energy Accounting.
- **Louderback, J. G. and Manners, G. E., Jr.** Evaluating Risky Investment Projects.
- **Lusch, R. F. and Bentz, W. F.** A Variance Approach to Analyzing Changes in Return on Investment.
- **Sangeladji, M. A.** True Rate of Return for Evaluating Capital Investments.

Management Accounting, Vol. 60, No. 9, March 1979

- **Horodowich, P.** Evaluating the Write-Off of Slow-Moving Finished Goods Inventory.
- **Imhoff, E. A., Jr. and Janell, P. A.** Opinion No. 29: A New Valuation Method.
- **Kim, S. H.** Making the Long-Term Investment Decision.
- **Walker, M. C.** Determining the Appropriate Discount Rate for Private, Not-for-Profit Organizations.

Manchester School of Economics and Social Studies, Vol. 47, No. 1, March 1979

- • **Beenstock, M. and Bell, S.** A Quarterly Econometric Model of the Capital Account in the U.K. Balance of Payments.
- • **Coppock, D. J.** Further Thoughts on the Monetary Approach to Balance of Payments Theory.
- • **Evans, J. L. and Yarrow, G. K.** Adaptive and Rational Expectations in Macroeconomic Models.
- • **Osborn, D. R. and Teal, F.** Choosing between Macroeconometric Models: An Illustration of the Problems.

Michigan Academician, Vol. 11, No. 3, Winter 1979

- **Stack, S.** The Impact of Political and Economic Organization on Income Tax Structures: A Comparative Analysis.

Michigan Law Review, Vol. 76, No. 4, March 1978

- **Solomon, L. D.** Restructuring the Corporate Board of Directors: Fond Hope—Faint Promise?

Michigan Law Review, Vol. 76, No. 5, April 1978

- **Gunn, A.** Tax Avoidance.

Middle East Technical University Studies in Development, No. 19, Spring 1978

- **Atalay, M.** Türkiye'de bitkisel yağ talebi üzerine bir deneme. (A Study on the Vegetable Õil Demand in Turkey. With English summary.)
- **Berkman, A. Ü.** Strategy in Administrative Reform.
- **Fry, M. J.** Further Investigation into Turkey's Phillips Curve.
- **Karataş, C.** Price Mechanism and the Need for Cost-Benefit Analysis in Developing Countries: A Survey.
- **Kasnakoğlu, Z.** Türkiye'de 1968 gelir dağilimında nesillerarasi etkileşim üzerine. (A Note on the Intergenerational Transmission of Income in Turkey for 1968. With English summary.)
- **Keyder, N.** Money Multiplier and the Determinants of Money Stock in Turkey, 1968–1977.
- **Yilmaz, M. R.** Cok-ölcütlü karar verme yöntemlerine eleştirisel bir bakiş. (With English summary.)

Mondo Aperto, Vol. 32, No. 6, December 1978

Bongiovanni, G. Investimenti di capitali esteri in Italia: Regime valutario degli investimenti, dei relativi redditi e dei ricavi di disinvestimento.

Bongiovanni, G. La brevettazione all'estero.

Lutz, C. Che cos'è la politica strutturale? (What Is the Meaning of a "Structural Policy"? With English summary.)

Salin, P. I tassi di cambio fluttuanti sono davvero efficaci? (Floating Exchange Rates Are Really Working Well? With English summary.)

Monthly Labor Review, Vol. 102, No. 1, January 1979

Bornstein, L. Industrial Relations in 1978: Some Bargaining Highlights.

• Dymmel, M. D. Technology in Telecommunications: Its Effect on Labor and Skills.

• Levin, B. A. Scheduled Wage Increases and Escalator Provisions in 1979.

Minor, G. Workers' Compensation Laws—Key State Amendments of 1978.

Mounts, G. J. Labor and the Supreme Court: Significant Decisions of 1977–78.

Nelson, R. R. State Labor Legislation Enacted in 1978.

Root, N. and Hoefer, M. The First Work-Injury Data Available from New BLS Study.

Staines, G. L. and Quinn, R. P. American Workers Evaluate the Quality of Their Jobs.

Monthly Labor Review, Vol. 102, No. 2, February 1979

Brown, S. C. Educational Attainment of Workers—Some Trends from 1975 to 1978.

Davis, C. H.; Eisenberg, W. M. and Kutscher, R. E. 'Quick' Special Purpose Surveys Passed Test during Coal Strike.

Fulco, L. J. Productivity Increased in All Major Sectors in the Third Quarter.

Glazer, D. Exploiting the Micro-Data Foundation of the Current Population Survey.

Peterson, J. L. Work and Socioeconomic Life Cycles: An Agenda for Longitudinal Research.

• Rones, P. L. and Leon, C. Employment and Unemployment during 1978: An Analysis.

Rosenfeld, C. Multiple Jobholding Holds Steady in 1978.

Runner, D. State Unemployment Insurance: Changes during 1978.

Schulz, J. H.; Leavitt, T. D. and Kelly, L. Private Pensions Fall Far Short of Preretirement Income Levels.

• Wang, C. L. Occupational Skin Disease Continues to Plague Industry.

Young, A. M. Job Search of Recipients of Unemployment Insurance.

Monthly Labor Review, Vol. 102, No. 3, March 1979

Antos, J.; Mellow, W. and Triplett, J. E. What Is a Current Equivalent to Unemployment Rates of the Past?

Cain, G. G. The Unemployment Rate as an Economic Indicator.

• Devens, R. M. Unemployment among Recipients of Food Stamps and AFDC.

• Flaim, P. O. The Effect of Demographic Changes on the Nation's Unemployment Rate.

Howell, C., et al. Price Changes in 1978—An Analysis.

Young, A. M. Work Experience of the Population in 1977.

National Institute Economic Review, No. 87, February 1979

• Ray, G. F. Export Prices of Primary Producers.

National Tax Journal, Vol. 31, No. 4, December 1978

Bell, M. and Fisher, R. C. State Limitations on Local Taxing and Spending Powers: Comment and Re-Evaluation.

Browning, E. K. The Welfare Cost of Taxation: A Further View.

Colander, D. On Cost and Benefit Related Fees.

• Fellingham, J. C. and Wolfson, M. A. The Effects of Alternative Income Tax Structures on Risk Taking in Capital Markets.

Folsom, R. N. Neutral Capital Gains Taxation under Inflation and Tax Deferral.

Funk, G. M. and Kryscio, R. J. Equity and the Property Tax: Comments on Two Seemingly Unrelated Conceptual Frameworks.

• Giertz, J. F. and Sullivan, D. H. Housing Tenure and Horizontal Equity.

• Holcombe, R. G. Public Choice and Public Spending.

• Krashinsky, M. The Cost of Day Care in Public Programs.

Ladd, H. F. State Limitations on Local Taxing and Spending Powers: A Response.

• Longo, C. A. Tax Coordination under Benefit Taxation.

• McLure, C. E., Jr. A Status Report on Tax Integration in the United States.

• Pack, H. and Pack, J. R. Metropolitan Fragmentation and Local Public Expenditures.

Vasché, J. D. The General Revenue Effects of the California Property Tax Limitation Amendment: A Comment.

National Westminister Bank Quarterly Review, August 1978

Arthur, T. G. Pensions: The Role of the State.

Charles, S. Do We Need a Housing Policy?

Croham, [Lord] [Allen, D.] The Developing

Structure of UK Government.
Falush, P. The Changing Pattern of Savings.
Higgins, T. Parliamentary Control of Public Expenditure—A Back Bench Revolt?
Lomax, D. F. Monetary Policy.
Richebächer, K. Deficit Spending—A Damaging Palliative.

National Westminister Bank Quarterly Review, November 1978

Capper, J. Petrochemicals: The Uncertain Outlook.
Cohen, S. D. Coping with the New Protectionism.
Glynn, D. R. The Last 14 Years of Incomes Policy—A CBI Perspective.
Hallett, G. British Land Policy at the Crossroads.
Hutchinson, P. J. Financial Assistance to Small Firms: The American Experience.
Smith, D. The Demand for Alternative Monies in the UK: 1924–77.

National Westminister Bank Quarterly Review, February 1979

Corbet, H. Tokyo Round: Twilight of a Liberal Era or a New Dawn?
Fallick, J. L. Pay Policy and Labour Supply: Some Neglected Considerations.
Gronicki, M. Polish Economic Policy in the Nineteen-Seventies.
Hobday, P. Saudi Arabia Spends Her Oil Wealth.
Layard, R.; Piachaud, D. and Stewart, M. The Causes of Poverty.
Lomax, D. F. The New Pluralism.
Parr, M. The National Enterprise Board.

Natural Resources Journal, Vol. 18, No. 4, October 1978

Adelman, M. A. International Oil.
Ausherman, L. Tennessee Valley Authority v. Hill: Protection of Endangered Species under Section 7 of the Endangered Species Act of 1973.
Bassett, F. Clean Air Act Provisions Extended to Outer Continental Shelf.
Bonnefoy, L. New Standards for Strip Mining: Social, Economic and Environmental Costs Now Considered.
Brannon, G. M. Taxation and the Political Economy of the Energy "Crisis"
Deacon, R. T. An Economic Analysis of Gasoline Price Controls.
Erickson, E. W., et al. The Political Economy of Crude Oil Price Controls.
Hudson, E. A. and Jorgenson, D. W. Energy Prices and the U.S. Economy, 1972–1976.
Jones, N. Proposed Rules for Administering the Acerage Limitation of Reclamation Law.
Jones, R. O.; Mead, W. J. and Sorensen, P. E. Free Entry into Crude Oil and Gas Production and Competition in the U.S. Oil Industry.
Kneese, A. V. Energy Conservation Policies.
McDonald, S. L. Federal Energy Resource Leasing Policy.
McElwee, C. L. Commerce Clause Limitations on a State's Regulation of Waste Disposal.
McKie, J. W. Oil Imports: Is Any Policy Possible?
Mead, W. J. Political-Economic Problems of Energy—A Synthesis.
Moyer, R. The Role of Coal: Problems and Policies.
Muehlenweg, R. The Continuing Problem of Nuclear Waste.
Ogden, D. M., Jr. Protecting Energy Turf: The Department of Energy Organization Act.
Schanz, J. J., Jr. and Perry, H. Oil Shale—A New Set of Uncertainties.
Townsend, K. K. Ground and Surface Water in New Mexico: Are They Protected against Uranium Mining and Milling?

Natural Resources Journal, Vol. 19, No. 1, January 1979

Baca, J. J. Deadline for Achieving BPT Upheld.
Bliss, K. J. Hunting Regulations Held Constitutional.
Brower, D. J. and Pannabecker, J. H. Growth Management Update: An Assessment and Status Report.
Carroll, M. Rural Land Use Control in Great Britain.
Culhane, P. J. and Friesema, H. P. Land Use Planning for the Public Lands.
Ervin, D. E. and Fitch, J. B. Evaluating Alternative Compensation and Recapture Techniques for Expanded Public Control of Land Use.
Gabin, V. California A. G. Opines: California's Nuclear Legislation Unconstitutional.
Greer, D. N. Limitation of Compensation for Victims of Nuclear Accidents Upheld.
Hamilton, M. S. Power Plant Siting: A Literature Review.
Keene, J. C. A Review of Governmental Policies and Techniques for Keeping Farmers Farming.
Kelly, E. Judicial Review of a Revision to Nevada's SIP Is Deferred until Final Action by EPA Administrator.
MacDowell, F. J. President Carter Announces Water Policy Initiatives.
Peters, L. Supreme Court Rejects Water as a Locatable Mineral for Federal Mining Claims.
Porter, M. D. Freight Rates May Discriminate against Recycled Materials.
Stromberg, A. NEPA and the Mexican Marijuana

Eradication Program.

Thomas, H. Some Non-Essential Areosol Propellant Uses Finally Banned.

Wengert, N. Constitutional Principles Applied to Land Use Planning and Regulation: A Tentative Restatement.

Whitham, D. N. Initial Geothermal Activities Held Not to Require an EIS.

Wunderlich, G. Landownership: A Status of Facts.

Nebraska Journal of Economics and Business, Vol. 18, No. 1, Winter 1979

- **Baker, J. C. and Ryans, J. K., Jr.** Multinational Corporation Investment in Less Developed Countries: Reducing Risk.
- **Butler, G. R. and Gale, J. R.** BTU Cost Comparisons of Conventional and Nonconventional Energy Sources.

Hall, A. S. Marx in the Modern World.

- **Kania, J. J. and McKean, J. R.** Decision-Making in the Extensive Firm.
- **Renshaw, E. F.** Some Notes on the Commerce Department's Index of Leading Economic Indicators.

Saunders, A. and Woodward, R. An Examination of the Stability of the Intertemporal Relationships among National Stock Market Indices: A Comment.

New England Economic Review, January/February 1979

Berkman, N. G. and Kopcke, R. W. The Money Stock: Out of Control or What?

Browne, L. E. and Syron, R. F. Cities, Suburbs and Regions.

Kopcke, R. W. and Kimball, R. C. Investment Incentives for State and Local Governments.

Little, J. S. Liquidity Creation by Euro-banks: 1973–1978.

Ohio State University Bulletin of Business Research, Vol. 53, No. 9, September 1978

Dougherty, D. M. The Petroleum Shortage and Its Implications for Cleveland, Ohio.

Quantius, F. W. Review of the Glass-Steagall Act's Impact on Multinational Banking.

Ohio State University Bulletin of Business Research, Vol. 53, No. 10, October 1978

Hunker, H. L. Population and Employment Change in Ohio in the 1970s.

Ohio State University Bulletin of Business Research, Vol. 53, No. 11, November 1978

Dewald, W. G. and Marchon, M. N. Macroeconomic Goals and Prospects of the Carter Administration.

Osaka Economic Papers, Vol. 28, No. 2–3, December 1978

Miyamoto, M. On the Godai Tomoatsu Mission to Europe in 1865 and Its Meanings in the Early Meiji Economic History. (In Japanese. With English summary.)

Morimoto, M. A Study on the Nature of Substanzerhaltungsrücklage: Especially with Emphasis to Karl Haxs Theory. (In Japanese. With English summary.)

Oda, K. Critical Remarks on Wage Bargaining Theories. (In Japanese. With English summary.)

Sawano, M. Die Partnerschaftstheorie von G. Fischer—Gerechte Lohn und Erfolgsbeteiligung. (In Japanese.)

Shiba, T. The Intention of the Diversified Expansion of Business Management in the Taisho Era and Its Frustration. The Case of Kawasaki Dockyard Co., Ltd. (In Japanese. With English summary.)

Suk, O. C. and Hioki, K. The Models of Comparative Management. (In Japanese. With English summary.)

Suruga, T. Intertemporal Comparisons of Production Structure: A Case of Japan between 1955 and 1965. (In Japanese. With English summary.)

Takeoka, Y. Politique économique et sociale du Front populaire et activité économique en France de Juin à Septembre 1936. (In Japanese.)

Yamada, M. Functions of Centralization and Decentralization in Public Finance. (In Japanese. With English summary.)

Oxford Economic Papers, N. S., Vol. 30, No. 3, November 1978

- **Bigman, D.** Technical Change, Distributive Shares, and Aggregation.
- **Broome, J.** Choice and Value in Economics.
- **Clark, C. G.** Wages and Profits.
- **Horsman, E. G.** Inheritance in England and Wales: The Evidence Provided by Wills.

Kay, J. A. Accounting Rate of Profit and Internal Rate of Return: A Reply.

- **Korkman, S.** The Devaluation Cycle.
- **Markandya, A.** The Quality of Current Approximations to the Measurement of Compensation Costs.
- **Neary, J. P.** Capital Subsidies and Employment in an Open Economy.
- **O'Connell, J.** Savings and Prices in a Full-Employment Traverse.
- **Orosel, G. O.** On the Wage-Interest Curve, Its Dual Relation, and the Theory of Capital within a Two-Sector Vintage Model.
- **Takagi, Y.** Surplus Labour and Disguised Unemployment.

- **Wright, F. K.** Accounting Rate of Profit and Internal Rate of Return.

Policy Analysis, Vol. 5, No. 1, Winter 1979

Angrist, S. S. and Stewman, S. Problem Solving for Public Policy: Learning by Doing.
Balkin, S. Crime Control as Energy Policy.
Newacheck, P. W. Capitalization: The Price of School Finance Reform.
Rycroft, R. W. Energy Policy Feedback: Bureaucratic Responsiveness in the Federal Energy Administration.
Siegel, K. and Doty, P. "Advocacy Research" versus "Management Review": A Comparative Analysis.
Weisbrod, B. A. Distributional Effects of Collective Goods.

Policy Review, No. 8, Spring 1979

Bergner, J. T. Federal Spending Limitations: An Idea Whose Time Has Come?
Krauss, M. B. The Threat of the 'New Protectionism'
McAllister, E. An Analysis of Carter's Wage Insurance Plan.
Paglin, M. Poverty in the United States: A Reevaluation.
Senese, D. J. The IRS and the Private Schools: 'The Power to Tax Involves the Power to Destroy'

Political Science Quarterly, Vol. 94, No. 1, Spring 1979

Holloway, H. Interest Groups in the Postpartisan Era: The Political Machine of the AFL-CIO.
Krasner, S. D. A Statist Interpretation of American Oil Policy toward the Middle East.
Moynihan, D. P. Patterns of Ethnic Succession: Blacks and Hispanics in New York City.

Population and Development Review, Vol. 4, No. 4, December 1978

Berelson, B. Prospects and Programs for Fertility Reduction: What? Where?
Caldwell, J. C. A Theory of Fertility: From High Plateau to Destabilization.
Espenshade, T. J. Zero Population Growth and the Economies of Developed Nations.
McNicoll, G. On Fertility Policy Research.
Oakley, D. American-Japanese Interaction in the Development of Population Policy in Japan, 1945–52.

Population and Development Review, Vol. 5, No. 1, March 1979

Demeny, P. On the End of the Population Explosion.
Graff, H. J. Literacy, Education, and Fertility, Past and Present: A Critical Review.
Gwatkin, D. R. Political Will and Family Planning: The Implications of India's Emergency Experience.
Herrin, A. N. Rural Electrification and Fertility Change in the Southern Philippines.
Leontief, W. Population Growth and Economic Development: Illustrative Projections.
Simmons, A. B. Slowing Metropolitan City Growth in Asia: Policies, Programs, and Results.

Problems of Economics, Vol. 21, No. 6, October 1978

Albalkin, L. I. Socialist Economic Theory: Past and Present.
Arrak, A. The Utilization of Private Automobiles.
Kozlova, K. Left-Radical Political Economy in the USA.
Liberman, E. G. and Khaikin, V. P. How to Protect the Interests of the Consuming Enterprise.

Problems of Economics, Vol. 21, No. 7, November 1978

Bal'tsevich, L. A. The Consumption of Durable Goods by Rural Dwellers in the Novosibirsk Region.
Kiperman, G. The Effectiveness of Production and Economic Indicators.
Krasavina, L. A Discussion of the Role of Gold in International Economic Relations.
Loginov, V. and Sidorov, M. Material Intensiveness of the Social Product.
Lysenko, V. L. The Influence of the Social Infrastructure on the Migration of the Population.
Vilenskii, M. Planning the Effect of Scientific-Technical Progress.

Public Finance Quarterly, Vol. 7, No. 1, January 1979

Anderson, G. K. Foreign Indebtedness of the U.S. Government at the Close of the American Revolution.
Greene, K. V. and Munley, V. G. Generating Growth in Public Expenditures: The Role of Employee and Constituent Demand.
Griffiths, G. and Saunders, A. Returns on Investment: A Note on Male and Female Higher Education in the United Kingdom, 1966–1973.
Harford, J. D. The Spatial Aspects of Local Public Goods: A Note.
Peacock, A. T. and Wiseman, J. Approaches to the Analysis of Government Expenditure Growth.
Pluta, J. E. Wagner's Law, Public Sector Patterns, and Growth of Public Enterprises in Taiwan.

Roth, T. P. External Economies, Tax Receipts, and Pareto Optimality: The Case of Information.

Public Policy, Vol. 27, No. 1, Winter 1979

Behn, R. D. and Clark, M. A. The Termination of Beach Erosion Control at Cape Hatteras.

Hirschey, M. J. Railroad Freight Service: A Challenge for New Public Policy.

Quarterly Journal of Economics, Vol. 93, No. 1, February 1979

Aoki, M. and Canzoneri, M. Reduced Forms of Rational Expectations Models.

Aubareda, J. Steady-State Growth of the Long-Run Sales-Maximizing Firm.

DeCanio, S. J. Rational Expectations and Learning from Experience.

Eubank, A. A., Jr. and Sirmans, C. F. The Price Adjustment Mechanism for Rental Housing in the United States.

Griffin, J. M. Statistical Cost Analysis Revisited.

Just, R. E. and Zilberman, D. Asymmetry of Taxes and Subsidies in Regulating Stochastic Mishap.

Nguyen, D. T. The Implications of Price Stabilization for the Short-Term Instability and Long-Term Level of LDCS' Export Earnings.

Pollak, R. A. Bergson-Samuelson Social Welfare Functions and the Theory of Social Choice.

Smallwood, D. E. and Conlisk, J. Product Quality in Markets Where Consumers are Imperfectly Informed.

Suits, D. B. The Elasticity of Demand for Gambling.

Swamy, S. The Response to Economic Challenge: A Comparative Economic History of China and India, 1870–1952.

Woglom, G. Rational Expectations and Monetary Policy in a Simple Macroeconomic Model.

Quarterly Review of Economics and Business, Vol. 19, No. 1, Spring 1979

- **Bierman, H., Jr. and Dukes, R. E.** Limitations of Replacement Cost.
- **Brooks, L. D. and Buckmaster, D.** Price-Change Accounting Models and Disaggregated Monetary Gains and Losses.
- **Fabozzi, F. J. and Shiffrin, L. M.** Replacement Cost Accounting: Application to the Pharmaceutical Industry.
- **Kistler, L. H. and Carter, C. P.** Replacement Cost Measures: Their Impact on Income, Dividends, and Investment Return.
- **Picur, R. D. and McKeown, J. C.** Evaluation of Alternative Methods of Income Measurement via a Criterion of Managerial Ability.
- **Piper, A. G.** Reporting the Effects of Inflation in Company Accounts in the United Kingdom.
- **Powers, M.** On the Comparability of Alternative Valuation Bases.
- **Scheiner, J. H. and Morse, W. J.** The Impact of SEC Replacement Cost Reporting Requirements: An Analysis.
- **Schoenfeld, H.-M. W.** Inflation Accounting—Development of Theory and Practice in Continental Europe.
- **Tysseland, M. S. and Gandhi, D. K.** Depreciation, Inflation, and Capital Formation in Public Utilities: One Possible Approach toward a Solution.
- **Vasarhelyi, M. A. and Pearson, E. F.** Studies in Inflation Accounting: A Taxonomization Approach.

Rassegna Economica, Vol. 42, No. 5, September–October 1978

Amato, A. Sulla fallita riforma della finanza locale.

Ancona, G. Evoluzione attesa dell'offerta di lavoro e programmazione regionale: il caso della puglia.

Canino, M. Il leasing agevolato.

Caroleo, E. F. and D'Antonio, M. La trasmissione dell'inflazione per settori e per aree geografiche.

Minervini, G. Il "supercommissario": atto secondo.

Monti, A. Alcune considerazioni su profitti, indebitamento e oneri finanziari nell'industria manifatturiera.

Parise, O. Un contributo al dibattito sulla ristrutturazione finanziaria delle imprese.

Ricossa, S. Sulla teoria pura del socialismo e del capitalismo.

Romano, L. La nuova GEPI per il Mezzogiorno.

Savona, P. Alcune riflessioni sulla importanza del capitale di rischio.

Rassegna Economica, Vol. 42, No. 6, November–December 1978

Becattini, G. L'economista e la "transformazione consapevole" della società

Bruno, V. Componenti economiche e variabili del risparmio finanziario delle famiglie.

Caroleo, E. F. and Scrocca, C. Struttura del mercato del lavoro in Campania e sistema delle garanzie.

Chiomenti, F. Buoni del Tesoro al portatore che non sono titoli di credito.

Masini, M. Sul problema del risanamento finanziario delle imprese.

Minervini, G. La "partecipazione" dei lavoratori e il diritto delle società

Quintano, C. and Calvelli, A. Entropia e dimensione delle matrici intermedie dell'economia

italiana (1965-1972)

Rosa, L. Potere ed élites nella storia economica del viceregno di Napoli.

Rotondo, W. Destinazione settoriale delle risorse finanziarie affluite alla Cassa per il Mezzogiorno e investimenti realizzati o indotti.

Santoro, F. I trasporti nell'economia comunitaria.

Tortorelli, F. La politica legislativa per l'artigianato in Campania in attesa della legge quadro.

Regional Studies, Vol. 12, No. 5, 1978

Armstrong, H. W. Community Regional Policy: A Survey and Critique.

Bearse, P. J. On the Intra-Regional Diffusion of Business Services Activity.

Bradley, J. E.; Kirby, A. M. and Taylor, P. J. Distance Decay and Dental Decay: A Study of Dental Health among Primary School Children in Newcastle upon Tyne.

Cloke, P. J. Changing Patterns of Urbanisation in Rural Areas of England and Wales, 1961-1971.

Jones, C. Household Movement, Filtering and Trading up within the Owner Occupied Sector.

McDermott, P. J. Changing Manufacturing Enterprise in the Metropolitan Environment: The Case of Electronics Firms in London.

Piasentin, U.; Costa, P. and Foot, D. The Venice Problem: An Approach by Urban Modelling.

Short, J. The Regional Distribution of Public Expenditure in Great Britain, 1969/70–1973/74.

Regional Studies, Vol. 12, No. 6, 1978

Abumere, S. I. Multinationals, Location Theory and Regional Development: Case Study of Bendel State of Nigeria.

Alden, J. D. and Saha, S. K. An Analysis of Second Jobholding in the EEC.

Murphy, P. E. Preferences and Preceptions of Urban Decision-making Groups: Congruence or Conflict?

Pankhurst, I. C. and Roe, P. E. An Empirical Study of Two Shopping Models.

Pedersen, P. O. Interaction between Short- and Long-run Development in Regions—The Case of Denmark.

Pitfield, D. E. The Volume of Internal and External Trade: Is Britain a Closed Economy?

Simmie, J. M. and Hale, D. J. Urban Self-management in Yugoslavia.

Spencer, A. H. Deriving Measures of Attractiveness for Shopping Centres.

Review of Business and Economic Research, Vol. 14, No. 1, Fall 1978

Ahking, F. W. Mexico: The Open Economy—A Note.

Bolten, S. E.; Kretlow, W. J. and Oakes, J. H. The Capital Asset Pricing Model under Certainty.

Brooks, L. and Buckmaster, D. Price-Change Income Models and Selected Firm Performance Measures.

Curtis, T. D. and Campbell, J. M., Jr. Investment in Graduate Human Capital: An Evaluation of the Rate of Return Approach.

De Rooy, J. Productivity of Social Overhead Capital: North-South Comparisons.

Hexter, J. L. Risk Reduction and Conglomerate Mergers.

Johnson, R. S. and Hultman, C. W. An Adjustment Cost Model under Expenditure-Changing Policies.

Rudolph, P. M. The Impact of Price, Expectations and Business Conditions on the Balance Sheet Structure of Firms.

Wallace, M. S. The Monetary Approach to Flexible Exchange Rates in the Short Run: An Empirical Test.

Review of the Economic Conditions in Italy, Vol. 32, No. 4, July 1978

Coppini, M. A. Social Security and the Redistribution of Income: A New Method and Some Applications Regarding Italy.

Germozzi, M. Craft Industry in the Italian Economy Today.

Ruini, C. The Italian Economy in 1977 and the Outlook for 1978.

Review of Economics and Statistics, Vol. 61, No. 1, February 1979

Baker, C. C., Jr. and Vignola, A. J. Market Liquidity, Security Trading, and the Estimation of Empirical Yield Curves.

• **Baldwin, R. E.** Determinants of Trade and Foreign Investment: Further Evidence.

• **Bartel, A. and Taubman, P.** Health and Labor Market Success: The Role of Various Diseases.

Beenstock, M. Arbitrage, Speculation, and Official Forward Intervention: The Cases of Sterling and the Canadian Dollar.

• **De Vany, A. and Sanchez, N.** Land Tenure Structures and Fertility in Mexico.

Dorfman, R. A Formula for the Gini Coefficient.

Esposito, F. F. and Esposito, L. Excess Capacity and Market Structure: Another Look at the Evidence.

• **Fields, G. S.** Place-to-Place Migration: Some New Evidence.

Grinols, E. and Bhagwati, J. Foreign Capital, Savings and Dependence: A Reply to Mr. Wasow.

• **Hill, C. R.** Capacities, Opportunities and Educa-

tional Investments: The Case of the High School Dropout.

- **Kwoka, J. E., Jr.** The Effect of Market Share Distribution on Industry Performance.
- **Lau, L. J.** On Exact Index Numbers.

Levy, H. and Kroll, Y. Efficiency Analysis with Borrowing and Lending: Criteria and Their Effectiveness.

Lowe, P. D. Pricing Problems in an Input-Output Approach to Environment Protection.

Mann, H. M.; Meehan, J. W., Jr. and Ramsay, G. A. Market Structure and Excess Capacity: A Look at Theory and Some Evidence.

- **Mansfield, E.; Romeo, A. and Wagner, S.** Foreign Trade and U.S. Research and Development.

Marshall, W. J. and Yawitz, J. B. A Note on Consistent Estimation of a Capital Market Equation.

Mayer, T. A Comparison of Unemployment Rates and Income Fluctuations Prior to the Great Depression and in the Postwar Period.

- **Oster, G.** A Factor Analytic Test of the Theory of the Dual Economy.

Peles, Y. C. and Sarnat, M. Corporate Taxes and Capital Structure: Some Evidence Drawn from the British Experience.

Seidman, L. S. The Return of the Profit Rate to the Wage Equation.

- **Siegel, J. J.** Inflation-Induced Distortions in Government and Private Saving Statistics.

Wasow, B. Saving and Dependence with Externally Financed Growth.

- **Weisskoff, R.** Trade, Protection and Import Elasticities for Brazil.
- **You, J. K.** Capital Utilization, Productivity, and Output Gap.

Review of Income and Wealth, Vol. 24, No. 4, December 1979

Adler, H. J. and Hawrylyshyn, O. Estimates of the Value of Household Work, Canada, 1961 and 1971.

Babeau, A. The Application of the Constant Price Method for Evaluating the Transfer Related to Inflation: The Case of French Households.

Marin, A. National Income, Welfare, and the Environment.

Walton, J. Current Cost Accounting: Implications for the Definition and Measurement of Corporate Income.

Review of Social Economy, Vol. 36, No. 3, December 1978

Goulet, D. Sufficiency for All: The Basic Mandate of Development and Social Economics.

- **Hill, L. E.** Social and Institutional Economics: Toward a Creative Synthesis.
- **Hunt, E. K.** The Normative Foundations of Social Theory: An Essay on the Criteria Defining Social Economics.

Müller-Armack, A. The Social Market Economy as an Economic and Social Order.

Rauscher, A. The Necessity for, and the Limits of, the Social Welfare State.

- **Stanfield, J. R.** On Social Economics.
- **Wisman, J. D.** The Naturalistic Turn of Orthodox Economics: A Study of Methodological Misunderstanding.

Revue d'Economie Industrielle, No. 3, 1st Semester 1978

Dubois, P. La mutation de la statistique industrielle. (Industrial Statistics in Progress. With English summary.)

Finon, D. Evolution comparée de la compétitivité de la production d'électricité d'origine nucléaire aux Etats-Unis et en France: Deuxième partie.

Jenny, F. and Weber, A.-P. La politique française de concurrence: nouvelles données et nouveaux problèmes. (Competition Policy in France: New Rules, New Issues. With English summary.)

Leroy, G. Apprentissages stratégiques et structureles d'entreprises internationales.

Morvan, Y. A propos de quelques ouvrages sur les nationalisations.

Renard, Y. L'enjeu de la bataille des statistiques industrielles. (The Industrial Statistics at Stake. With English summary.)

Roncin, A. Le rôle des caractéristiques sectorielles dans la détermination des performances à l'exportation. (Sectoral Characteristics and Export Performances. With English summary.)

Stoffaës, C. Du libre échangisme à la politique industrielle.

Revue d'Economie Industrielle, No. 4, 2nd Semester 1978

Bernard, J.-P. Conflits sociaux et économie industrielle. (Social Conflicts Facing Industrial Economy. With English summary.)

Boublil, A. A propos de "la nouvelle économie française" de Jacques Attali.

Gallais-Hamonno, G. A propos de "La nouvelle économie française" de Jacques Attali.

Gouni, L. A propos de l'article de Dominique Finon sur l'évolution de la compétitivité de l'électricité nucléaire aux Etats-Unis et en France.

Mader, F. Un exemple de restructuration industrielle: l'oligopole du ciment en France entre 1962 et 1972. (Case Study of Industrial Manufacturing: The French Cement Oligopole from 1962 to 1972. With English summary.)

Maurel, P. Stratégie des firmes vis-à-vis de l'entrée: le cas de l'industrie chimique. (Strategy of Firms towards Entry. The Case of the Chemical Industry. With English summary.)

Navatte, P. L'étude des effets micro-économiques produits par les opérations de fusion absorption (une analyse appliquée à l'industrie française et au cas du secteur du ciment). (The Micro Economic Effects of Corporate Mergers. With English summary.)

Simonin, J.-P. Existe-t-il un indice optimal de mobilité des structures industrielles? (Is There an Optimum Mobility Index of Industrial Structures? With English summary.)

Revue d'Economie Industrielle, No. 5, 3rd Semester 1978

Carré, D. Performances internes et intensité des échanges internationaux. (Internal Performances and Intensity of International Exchanges. With English summary.)

Gabet, C. Rentabilité et productivité. Une comparaison France-R.F.A. sur la période 1960–1974. (Profitability and Rentability: A France-Germany Comparison over the period 1960–1974. With English summary.)

Gourlaouen, J.-P. A propos de l'inefficience. (On X-Inefficiency. With English summary.)

Gullhon, B. La notion de productivité et ses utilasations. (Productivity: Concepts and Utilization. With English summary.)

Hanaut Cazac, A. Une méthode de mesure de la productivité du travail dans les entreprises industrielles. (A Tool for the Measurement of Direct Labor Productivity in Industrial Firms. With English summary.)

Henin, P.-Y. De l'efficacité à la rentabilité: Jalons pour un programme de travail.

Humbert, M. Concurrence et hiérarchie interindustrielle. (Competition and Interindustrial Hierarchy. With English summary.)

Martinet, A. and Savall, H. Dysfonctionnements, coûts et performances cachés dans l'entreprise. (Dysfunction Hidden Costs and Performances, in the Enterprise. With English summary.)

Merlin, A. Efficacité et rentabilité: pour une approche "efficace" des ces notions.

Mevellec, P. La méthode des surplus et l'analyse financière: Vers une productivité et un surplus globaux élargis. (Surplus Method and Financial Analysis towards a Widened Overall Productivity and Surplus. With English summary.)

Pastré, O. Recension des principales sources d'information concernant les sociétés françaises.

Perrin, J. Les performances des entreprises industrielles américaines dans la crise économique. (The Performances of US Business Enterprises in the Economic Crisis. With English summary.)

Revue d'Economie Industrielle, No. 6, 4th Semester 1978

Antonelli, C. De l'évolution de quelques fonctions de coût et de productivité dans les entreprises textiles selon leurs dimensions. (Costs and Productivity in the Textile Firms, as a Function of Their Size. With English summary.)

Dupuy, Y. L'étude des formes d'insertion dans les groupes d'entreprises: quelques enseignements méthodologiques d'une enquête exploratorie. (The Forms of Integration of Firms within a Group: Some Methodological Considerations. With English summary.)

Gillard, L. Nouvelles réflexions sur les découpages du système industriel.

Maillet, P. Réflexions économiques sur l'idée d'un moratorie nucléaire. (The Idea of a Nuclear Moratorium Considered from an Economic Standpoint. With English summary.)

Marchesnay, M. L'apport d'Herbert Simon à l'analyse de la firme et de l'industrie.

Martin, J.-M. Chronique sur l'énergie: les nouvelles perspectives françaises à horizon 1985.

Pras, B. Risque du dirigeant et diversification multinationale. (Managerial Risk and Multinational Diversification. With English summary.)

Revue Économique, Vol. 29, No. 4, July 1978

Caro, J.-Y. De quelques obstacles épistémologiques dans la conceptualisation des comportements. (Epistemological Point of View about the Conceptualisation of Individual Behaviors. With English summary.)

Crouhy, M. and Mélitz, J. Réponse à J.-P. Fitoussi et J.-P. Pollin [Grandeur et misère de l'économétrie ou faut-il rejeter les thèses structurelles de l'inflation?].

Fitoussi, J.-P. and Pollin, J.-P. Grandeur et misère de l'économétrie ou faut-il rejeter les thèses structurelles de l'inflation? À propos de l'article de M. Crouhy et J. Mélitz.

Fries, E. Le paradoxe de la valeur chez Adam Smith: Un mythe. (The Paradox of Value by Adam Smith: A Myth. With English summary.)

Gaudemar, J.-P. Faire l'histoire de la pensée économique? Questions pour un débat. (To Make the History of Economic Thought? Questions for a Debate. With English summary.)

Kolm, S.-C. Science économique et position politique. (Economics and Political Position. With English summary.)

Mériaux, B. Les besoins d'emploi: contenu et problèmes posés par leur satisfaction: À propos de l'article de R. Salais.

Salais, R. Réponse au commentaire de B. Mériaux [Les besoins d'emploi: contenu et problèmes posés par leur satisfaction].

Revue Économique, Vol. 29, No. 5, September 1978

Boizette, J.-P. Conformité, cohésion et développement des entreprises. (Compliance, Cohesion and Development of the Firms. With English summary.)

Cremer, J. and Sirbu, M. A., Jr. Une analyse économétrique de l'effort de recherche et développement de l'industrie française. (A Statistical Analysis of Research and Development in French Industry. With English summary.)

Gourlaouen, J.-P. Rationnement du crédit risque et pouvoir de marchandage. (Credit Rationing, Risk and Bargaining Power. With English summary.)

Lévy-Garboua, V., et al. Chang, inflation et intérêt: Un modele. (Exchange Rate, Inflation and Interest Rate: A Model. With English summary.)

Messerlin, P. De la théorie du dumping. (About Dumping Theory. With English summary.)

Revue Économique, Vol. 29, No. 6, November 1978

Allain, S. Les investissements privés. (Equity Investments in Developing Countries. With English summary.)

Bauchet, P. and Paille, A. Le financement des transports maritimes dans les pays en voie de développement. (The Financing of Shipping in the LDC. With English summary.)

Carrière, J. Le cofinancement. (Cofinancing. With English summary.)

Cotta, A. Les problèmes financiers de l'économie mondiale. (The Financial Problems of World Economy. With English summary.)

Deveaud, J.-J. La société financière internationale: Son rôle parmi les institutions financières de développement. (IFC and the Other Development Oriented Financial Institutions. With English summary.)

Guillaumont, P. Substitution de contraintes dans le financement international du développement. (Trade-Off between Constraints of Development International Financing. With English summary.)

Parly, J.-M. A propos de la privatisation du financement international du développement. (Financing the LDC's: The Growing Role of Private Institution. With English summary.)

du Pré de Saint-Maur, J. Le Financement du développement par les marches internationaux. (The Role of the International Markets in the Financing of Development. With English summary.)

Saxe, J. Un regard nouveau sur l'analyse des problèmes de balance des paiements des pays en voie de développement. (A New Look on LDCs Balance of Payment Problems. With English summary.)

Triffin, R. Quelques observations sur la structure géographique des déficits internationaux et de leur financement. (Few Remarks on Geographical Structures of International Deficits and Their Financing. With English summary.)

Rivista Internazionale di Scienze Economiche e Commerciali, Vol. 25, No. 10, October 1978

Bagiotti, T. Paradossi Ragionativi e operativi del credito e della banca. (Current Paradoxes within the Reasoning and Operation of Credit and Banking.)

Canarella, G. and Garston, N. Determination of Nominal Interest Rates: The Case of Italy.

Civelek, M. A. On the Recent Financial Innovations in the Commercial Banking Sector of the American Economy.

Deiss, J. The Regional Adjustment Process and Regional Monetary Policy.

Demaria, G. Una interpretazione monetaria "globale" della rivoluzione francese. Dall' "assegnato" al "marengo" e All'editto di Milano del 1807. (A "Global" Monetary Interpretation of the French Revolution: From the "Assignat" to the "Marengo" and the 1807 Edict of Milan.)

Gitlow, A. L. Social Legislation and the Stagflation Trap.

Patrick, T. M. Mature Creditorship and the U.S. Balance of Payments.

Yunker, J. A. Investment Propensities under Capitalism and Market Socialism.

Rivista Internazionale di Scienze Economiche e Commerciali, Vol. 25, No. 11, November 1978

Allais, M. On the Concept of Probability.

Gay, D. E. R. Property Rights and the Theory of the Firm under Hungary's New Economic Mechanism, 1968-1973.

Kymn, K. O. and Kim, J. B. The Solution of the Generalized Inverse of an Aggregation Matrix and the Linear Aggregation Coefficient.

Schmidt, G. The Economic Foundations of the Dutch Civilization.

Scotto, A. Sul progetto di riforma universitaria 1978. (On the 1978 Bill of University Reform in Italy.)

Rivista Internazionale di Scienze Economiche e Commerciali, Vol. 25, No. 12, December 1978

Carli, C. La programmazione dell'efficacia della pubblicità: Il modello A.P.E. (Advertising Effectiveness Planning: The A.P.E. Model. With English summary.)

Quintano, C. Su alcuni aspetti della multicollinerità nei modelli econometrici. (About Some Aspects of Multicollinearity in Econometric Models. With English summary.)

Rao, T. V. S. R. Money, Convenience Services and Economic Growth.

Rossi, A. Aspetti Giuridico-Istituzionali del trasferimento di tecnologia ai paesi emergenti. (The Legislations of Developing Countries and The Behaviour of International Organizations on Industrial Property and Transfer of Technology.)

Sufrin, S. C. and Young, S. Applied Economic Analysis: Standards of Evaluation.

Wassink, D. Economic Development with Unlimited Finances: Foreign Exchange Surplus in OPEC Countries.

Rivista Internazionale di Scienze Economiche e Commerciali, Vol. 26, No. 1, January 1979

Bagiotti, T. Il serpente delia ragione: SME. (The European Monetary System: Its Role as a Lie Detector.)

Manfredini, M. International Trade: Towards a Dynamic Theory of Potential Comparative Advantage.

Montaner, A. Concorrenza economia di mercato ed equilibrio. (On Competition, Market Economy and Equilibrium. With English summary.)

Park, Y. J. On X-Efficiency and Output Differences.

Porta, P. L. Ricardo's Unpublished Last Words on the Subject of Value.

Tower, E. Notes on Some Difficulties with Optimum Tariff Policy.

Yu, E. S. H. International Capital Movement, Sterilization and Internal and External Balances.

Rivista di Politica Economica, Vol. 68, No. 10, October 1978

Luciani, N. Scelta dell'investimento in rapporto al rischio e imposte sul patrimonio e sul reddito.

Simeone, F. Stato e prospettive del "Tokyo round"

Tutino, F. Crediti e debiti commerciali a breve termine verso l'estero e prospettive di evoluzione della politica valutaria italiana.

Verde, A. Reddito potenziale e vincolo della bilancia dei pagamenti-Il caso italiano (1969–1978)

Rivista di Politica Economica, Vol. 68, No. 11, November 1978

Casarosa, C. Un contributo all'analisi dei fondamenti microeconomici della teoria keynesiana della domanda effettiva.

Impicciatore, G. Teoria generale del disequilibrio: risultati e problemi.

Rossi, E. Modelli macroeconomici di squilibrio: un saggio critico.

Rivista di Statistica Applicata, Vol. 11, No. 4, October-November-December 1978

Carulli, E. Ottimizzazione delle giacenze di contante: considerazioni statistiche.

De Floriani, W. Su un indice del potenziale teorico di mercato dei settimanali. (With English summary.)

De Luca, A. In risposta all'articolo "Su un indice del potenziale teorico di mercato die settimanali"

Stefani, S. and Torriero, A. Un programma di classificazione dei titoli obbligazionari. (With English summary.)

Scandinavian Journal of Economics, Vol. 80, No. 4, 1978

- **Björklund, A.** On the Duration of Unemployment in Sweden, 1965–1976.

Danziger, L. The Transactions Demand for Cash: A Note on the Baumol-Tobin Theory.

- **Hamilton, C.** Appraising Capital Goods Imported to Developing Countries.

Hjorth-Andersen, C. Road Noise and Property Values—Some Evidence from the Copenhagen Area.

- **Kornai, J. and Weibull, J. W.** The Normal State of the Market in a Shortage Economy: A Queue Model.
- **Meade, J.** A Strategy for Commodity Policy.
- **Ohlin, B.** 1933 and 1977—Some Expansion Policy Problems in Cases of Unbalanced Domestic and International Economic Relations.

Timonen, J. and Hämäläinen, R. P. A Dynamic Example of the Intertemporal Price Discrimination Problem.

- **Ylä-Liedenpohja, J.** Taxes, Dividends and Capital Gains in the Adjustment Cost Model of the Firm.

Schweizerische Zeitschrift für Volkswirtschaft und Statistik, Vol. 115, No. 1, March 1979

Borner, S. Schicksal oder Politikversagen? Kritische Betrachtungen zum Verlauf der schweizerischen Wirtschaftspolitik in den siebziger Jahren. (Fate or Policy Failure? With English summary.)

Jetzer, M. Zur ökonomischen Theorie des Staates: Betrachtungen zu Kästli und Saurer. (The Economic Theory of the State: Reflections on Kästli's and Saurer's Paper. With English summary.)

Rieder, P. Volkswirtschaftliche Kosten unterschiedlicher Agrarmarktsysteme. (National Costs of Different Agricultural Market Policies. With

English summary.)

- • **Tovias, A.** Effets de l'intégration économique dans un pays pratiquant le dumping à l'exportation: Une contribution à la Théorie des Unions douanières. (Effects of the Economic Integration in a Country Practising Export-Dumping: A Contribution to the Theory of Customs-Unions. With English-summary.)

Science and Society, Vol. 43, No. 1, Spring 1979

- **Keeran, R. R.** "Everything for Victory": Communist Influence in the Auto Industry during World War II.
- **Rupp, L. J.** Women, Class, and Mobilization in Nazi Germany.

Scottish Journal of Political Economy, Vol. 26, No. 1, February 1979

- **Creedy, J.** The Inequality of Earnings and the Accounting Period.
- **Elias, D. P. B.** Regional Unemployment Elasticities: Migration or Registration?
- **Gordon, I.** Regional Unemployment Elasticities: The Neglected Role of Migration.
- • **Maclennan, D.** Information Networks in a Local Housing Market.
- • **Reid, G. C.** An Analysis of the Firm, Market Structure and Technical Progress.
- • **Saunders, A.** The Short-Run Causal Relationship between U.K. Interest Rates, Share Prices and Dividend Yields.
- • **Ulph, A. M. and Reynolds, I. K.** An Activities Model of Consumer Behaviour with Special Reference to Outdoor Recreation.
- **Wilson, T.** The Economic Outlook: Some Basic Issues.

Sloan Management Review, Vol. 20, No. 2, Winter 1979

- **Barocci, T. A.** SMR Forum: The Inflationary Bugaboo.
- **Blair, R. D.** ERISA and the Prudent Man Rule: Avoiding Perverse Results.
- **Bradley, J. W. and Korn, D. H.** Bargains in Valuation Disparities: Corporate Acquirer versus Passive Investor.
- **Herzlinger, R. E.** Zero-Base Budgeting in the Federal Government: A Case Study.
- **Lilien, G. L. and Rao, A. G.** Emerging Approaches to Retail Outlet Management.
- **Mills, D. Q.** SMR Forum: Comprehensive Wage-Price Policy.
- **Seidman, L. S.** SMR Forum: The Case for a Tax-Based Incomes Policy.

Social Research, Vol. 45, No. 4, Winter 1978

- **Castoriadis, C.** From Marx to Aristotle, from Aristotle to Us.
- **Cohen, J. L.** System and Class: The Subversion of Emancipation.
- **Lefort, C.** Marx: From One Vision of History to Another.
- **Postone, M.** Necessity, Labor, and Time: A Reinterpretation of the Marxian Critique of Capitalism.

Social Science Quarterly, Vol. 59, No. 3, December 1978

- **Cobas, J. A.** A Method to Estimate the Bureau of Labor Statistics Family Budgets for all Standard Metropolitan Statistical Areas.
- **Mattila, J. P.** G.I. Bill Benefits and Enrollments: How Did Vietnam Veterans Fare?
- **Nechemias, C. R.** The Khrushchev and Brezhnev Eras: A Comparison of Social Welfare Policies.
- **Schoen, R.** Toward a Theory of the Demographic Implications of Ethnic Stratification.
- **Watkins, A. J.** Intermetropolitan Migration and the Rise of the Sunbelt.
- **Wilcox, J. and Roof, W. C.** Percent Black and Black-White Status Inequality: Southern versus Nonsouthern Patterns.

Social Science Quarterly, Vol. 59, No. 4, March 1979

- **Boulay, H.** Social Control Theories of Urban Politics.
- **Boulay, H.** Reply to Gorden [Social Control and Capitalist Cities] and Katznelson [Logical Heresies and Theoretical Possibilities].
- **Buchanan, J. M.** The Potential for Taxpayer Revolt in American Democracy.
- **Gilbert, D. A.** Property Tax Base Sharing: An Answer to Central City Fiscal Problems?
- **Gordon, D. M.** Social Control and Capitalist Cities.
- **Katznelson, I.** Logical Heresies and Theoretical Possibilities.
- **McKenzie, R. B.** The Economic Basis of Departmental Discord in Academe.
- **Musgrave, R. A.** The Tax Revolt.
- **Quester, A.** Women's Behavior and the Tax Code.
- **Wirth, C. J.** Social Bias in Political Recruitment: Ascribed and Achieved Status of Black and White School Board Members.

Social Security Bulletin, Vol. 41, No. 9, September 1978

- • **Carroll, M. S.** Private Health Insurance Plans in 1976: An Evaluation.
- **Copeland, L. S.** Social Security and Job-Creation Measures: Recent French Experience.
- • **Hastings, R. I. K.** Student OASDI Beneficiaries: Program Utilization and Educational Aspirations.

Social Security Bulletin, Vol. 41, No. 12, December 1978

Lingg, B. A. Beneficiaries Affected by the Annual Earnings Test in 1975.

• **Mallan, L. B. and Cox, D.** Older Workers Uninsured for Retired-Worker Benefits.

Morrison, M. M. Institutionalized SSI Recipients Covered by Medicaid, June 1977.

Social Security Bulletin, Vol. 42, No. 1, January 1979

Fox, A. Earnings Replacement Rates of Retired Couples: Findings from the Retirement History Study.

• **Gibson, R. M. and Fisher, C. R.** Age Differences in Health Care Spending, Fiscal Year 1977.

Sherman, S. R. Comparison of Aged OASDI and SSI Recipients, 1974.

Social Security Bulletin, Vol. 42, No. 2, February 1979

Copeland, L. S. Mandatory Employment of the Handicapped.

• **Hawkins, S. C. and Rigby, D. E.** Effect of SSI on Medicaid Caseloads and Expenditures.

Thompson, G. B. Black-White Differences in Private Pensions: Findings from the Retirement History Study.

Southern Economic Journal, Vol. 45, No. 4, April 1979

Allen, J. Information and Subsequent Migration: Further Analysis and Additional Evidence.

• **Anderson, J. E.** On the Measurement of Welfare Cost under Uncertainty.

• **Batavia, B.** The Estimation of Biased Technical Efficiency in the U.S. Textile Industry, 1949–1974.

Bomberger, W. A. and Makinen, G. E. Inflation, Unemployment, and Expectations in Latin America—Some Simple Tests: Reply.

Boyes, W. J. and Schlagenhauf, D. E. Managerial Incentives and the Specification of Functional Forms.

• **Chan, K. S.** A Behavioral Model of Bureaucracy.

Cho, D. W. The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States: Some Additional Evidence.

Cornell, B. A Note on Capital Asset Pricing and the Theory of Indexed Bonds.

Crafton, S. M. Convenience Store Pricing and the Value of Time: A Note on the Becker-Devany Full Price Model.

• **Gallman, R. E.** Slavery and Southern Economic Growth.

• **Georgescu-Roegen, N.** Energy Analysis and Economic Valuation.

• **Hamermesh, D. S.** New Estimates of the Incidence of the Payroll Tax.

Hansen, N. Does the South Have a Stake in Northern Urban Poverty?

Hvidding, J. M. Speculative Behavior, Search, and Waiting: A Note on a Potential Ambiguity in the Interpretation of Job Search Models.

• **Ito, H. H.** The Effective Wage Rate, Labor Force Participation and the Rate of Return to Investment in Human Capital.

• **Mehra, Y. P. and Spencer, D. E.** The St. Louis Equation and Reverse Causation: The Evidence Reexamined.

• **Meyer, R. A.** Regulated Monopoly under Uncertainty.

• **Mills, D. E.** Segregation, Rationing and Zoning.

Moffitt, R. A. A Note on the Effect of Taxes and Transfers on Labor Supply.

Rabin, A. A. A Note on the Link between Balance-of-Payments Disequilibrium and the Excess Demand for Money.

Schnitzel, P. A Note on the Philatelic Demand for Postage Stamps.

Sheehey, E. J. Inflation, Unemployment, and Expectations in Latin America—Some Simple Tests: Comment.

• **Vroman, S. and Vroman, W.** Money Wage Changes: Before, During and After Controls.

• **Watkins, T. H.** On the Reformulation of Optimization Problems in Which the Action Variables Are Not the Objective Function Arguments.

• **Wessels, W. J.** The Contribution by Firms to Unemployment: A Dynamic Model.

• **Witte, W. E.** Dynamic Adjustment in an Open Economy with Flexible Exchange Rates.

Statistica, Vol. 38, No. 4, October–December 1978

Bellacicco, A. Nuovi criteri di misura della mobilità sociale. (New Criteria for Measuring Social Mobility. With English summary.)

Marasini, D. La stratificazione nel campionamento con risposte casualizzate. (The Stratification in the Sampling with Randomized Responses. With English summary.)

Ottaviani Millefiori, M. G. Il modello lineare a due dimensioni nel caso di estrazione in blocco. (Linear Model in Two Variables: The Case of Samples Drawn from a Finite Population without Replacement. With English summary.)

Tan, W. On the Quadratic Estimation of Covariance Matrices in Manova Random Effect Models.

Studi Economici, Vol. 33, No. 4, 1978

Cella, G. Sul numero di soluzioni ottime dei problemi duali di programmazione lineare.

Imbriani, C. Salari, occupazione e prezzi in una analisi dinamica.
Jossa, B. Disequilibrio e teoria keynesiana.
Matarazzo, B. Sulla relazione tra valori marginali e valori medi di una funzione.
Musu, I. Equilibrio keynesiano, causalità e flessibilità dei prezzi (A proposito di alcune critiche ad un libro di Pasinetti)

Studi Economici, Vol. 33, No. 5, 1978

Costa, P. L'agglomerazione urbana delle attività economiche.
Jossa, B. Note su di un contributo recente alla teoria dell'imperialismo.
La Rosa, R. Il modello dei Fei e Ranis con accumulazione di capitale e progresso tecnico.
Lombardi, M. L'attuale regime internazionale dei cambi.
Quintano, C. Un tentativo di sintesi empirica della matrice delle correlazioni per le componenti principali e per la collinerità
Terrasi, M. B. I cambiamenti di localizzazione dell'industria manifatturieria in Italia: 1951–1971.

Survey of Current Business, Vol. 58, No. 11, November 1978

Herman, S. W. The Farm Sector.
Wakefield, J. C. Federal Budget Developments.

Survey of Current Business, Vol. 58, No. 12, December 1978

Dunaway, S. V. U.S. International Transactions, Third Quarter 1978.
Levin, D. J. State and Local Government Fiscal Position in 1978.
• **Whichard, O. G.** Employment and Employee Compensation of U.S. Affiliates of Foreign Companies, 1974.
Woodward, J. T. Plant and Equipment Expenditures, Quarters of 1978 and First and Second Quarters of 1979.

Survey of Current Business, Vol. 59, No. 1, January 1979

• **Howenstine, N. G.** Gross Product of U.S. Affiliates of Foreign Companies.
• **Steinberg, E. I.** Labor Mobility in 1960–65 and 1970–75.
Woodward, J. T. Plant and Equipment Expenditures: Year 1979.

Survey of Current Business, Vol. 59, No. 2, February 1979

Ritz, P. M. The Input-Output Structure of the U.S. Economy, 1972.
Rutledge, G. L. Pollution Abatement and Control Expenditures in Constant and Current Dollars, 1972–77.
Waite, C. A. and Wakefield, J. C. Federal Fiscal Programs.

Tijdschrift Voor Economie en Management, Vol. 23, No. 4, 1978

Deboeck, J. Rural Development Policies and Practices of the World Bank.
Dombrecht, M. The Monetary Approach to the Balance of Payments under Fixed Exchange Rates: A Survey.
Tavernier, K. Vervelende economische waarheden in een crisistijd.
Van Rompuy, P. and Vanbuel, M. Hoe efficient werken de sectoriële arbeidsmarkten? (Testing the Efficiency of Sectoral Labour Markets: An Empirical Application to Belgium. With English summary.)
Verwilst, H. The Liquidity Ratio as a Norm for Monetary Policy.
Vleminckx, A. Negative Income Taxes and the Elimination of Poverty: The Case of Belgium.

El Trimestre Economico, Vol. 46, No. 182, April–June 1979

Clavijo, F. and Gómez, O. Parámetros e interdependencias en la economía mexicana: Un análisis econométrico.
Garbacik, E. El proceso del crecimiento económico a la luz de la ley de la entropía.
Gollás, M. Tamaño y crecimiento de las empresas industriales de México.
Lizano, E. Reflexiones en torno al Proyecto de Tratado de la Comunidad Económica y Social Centroamericana.
Tomassini, L. El Diálogo Norte-Sur: Confrontación o negociación.
Urquidi, V. L. and Nadal, A. Algunas Observaciones acerca de la teoría económica y el cambio técnico.
Villarreal, R. Las teorías clásica, neoclásica, del imperialismo—dependencia y su evidencia histórica.

Rivista di Politica Economica, Vol. 68, No. 12, December 1978

Gilibert, P. L. Un indice di concorrenzialità delle esportazioni italiane: 1974–1977.
Morcaldo, G. and Salvemini, G. Struttura ed evoluzione della spesa sanitaria pubblica.
Panico, C. Sulle configurazioni di lungo periodo: alcune osservazioni.
Puccinelli, P. Ancora sulle configurazioni di lungo periodo.

Weltwirtschaftliches Archiv, Vol. 114, No. 4, 1978

- **Black, S. W.** Policy Responses to Major Disturbances of the 1970s and Their Transmission through International Goods and Capital Markets.
- **Fischer, S. and Modigliani, F.** Towards an Understanding of the Real Effects and Costs of Inflation.
- **Hickman, B. G. and Schleicher, S.** The Interdependence of National Economies and the Synchronization of Economic Fluctuations: Evidence from the LINK Project.
- **Modigliani, F. and Papademos, L.** Optimal Demand Policies against Stagflation.
- **Phelps, E. S.** Disinflation without Recession: Adaptive Guideposts and Monetary Policy.
- **Porter, M. G.** External Shocks and Stabilization Policy in a Small Open Economy: The Australian Experience.

World Development, Vol. 6, No. 11/12, November/December 1978

Ahmed, I. Unemployment and Underemployment in Bangladesh Agriculture.

Berry, A. and Sabot, R. H. Labour Market Performance in Developing Countries: A Survey.

Bruton, H. J. Labour Market Performance in Developing Countries: A Survey: Comment.

Guisinger, S. and Hicks, N. L. Long-term Trends in Income Distribution in Pakistan.

Morawetz, D. Basic Needs Policies and Population Growth.

Riskin, C. Intermediate Technology in China's Rural Industries.

Robinson, W. C. Economic Policy and Population Change in Thailand.

Todaro, M. P. Labour Market Performance in Developing Countries: A Survey: Comment.

World Development, Vol. 7, No. 1, January 1979

Beenstock, M. Corruption and Development.

Chudnovsky, D. The Challenge by Domestic Enterprises to the Transnational Corporations' Domination: A Case Study of the Argentine Pharmaceutical Industry.

Fajana, O. Trade and Growth: The Nigerian Experience.

Lall, S. Transfer Pricing and Developing Countries: Some Problems of Investigation.

Landell-Mills, P. The Southern African Customs Union: A Comment on Mosley's Reappraisal.

Mosley, P. Reply to Robson and Landell-Mills [The Southern African Customs Union: A Reappraisal].

Newfarmer, R. S. TNC Takeovers in Brazil: The Uneven Distribution of Benefits in the Market for Firms.

Prescott, N. M. Schistosomiasis and Development.

Sines, R. H. Sectoral Elasticities of Substitution between Labour and Capital in Venezuelan Manufacturing: A Cross-Sectional Micro Analysis.

Yale Law Journal, Vol. 88, No. 3, January 1979

Beckman, J. S. Securities Law and the Constitution: State Tender Offer Statutes Reconsidered.

Brudney, J. J. The Cost of Growing Old: Business Necessity and the Age Discrimination in Employment Act.

Waggoner, D. M. Implementation of the Environmental Impact Statement.

Weisberg, R. C. Foreign Nondisclosure Laws and Domestic Discovery Orders in Antitrust Litigation.

Yale Law Journal, Vol. 88, No. 4, March 1979

de Noonan, S. S. Statehood and the Equal Footing Doctrine: The Case for Puerto Rican Seabed Rights.

Spitzer, M. L. Multicriteria Choice Process: An Application of Public Choice Theory to Bakke, the FCC, and the Courts.

Zeitschrift für die gesamte Staatswissenchaft, Vol. 134, No. 4, December 1978

- **Alves, R. L. J.** Scientific Transfer—Untersuchung zur Forschungsabhängigkeit der Neuproduktplanung. (Scientific Transfer—The Impact of R&D on New Product Decisions. With English summary.)
- **Bernholz, P. and Faber, M.** Steady State and Superiority of Roundaboutness: A Comparison between the Neoclassical and a Neo-Austrian Approach.

Fischer, J. and Uebe, G. Stabilität ökonomischer (Makro-)Modelle: Ein kristichen Anmerkung zur Leistungsfähigkeit einer kybernetischen Stabilitätsanalyse. (Stability of Economic (Macro-)Models: A Critical Note on the Nyquist Criterion of Cybernetics. With English summary.)

Hauschildt, J. Negativ-Kataloge in Entscheidungszielen: Instrument zur Steuerung von Entscheidungsprozessen. (Decision Goals in Negatively Defined Versions: "Negativ-Kataloge". With English summary.)

Milde, H. Ein Modell für das liquiditätsverhalten von Kreditinstituten. (A Model of Bank Reserve Management. With English summary.)

Ramser, H. J. Die Kontrakttheorie als Beitrag zu einer ökonomischen Theorie des Arbeitsmarkets. (Contract Theory as a Contribution to the Economic Theory of the Labour Market. With English summary.)

- **Richter, R.; McMahon, P. C. and Regier, H.-J.** Determinants of Free Liquid Reserves in the Federal Republic of Germany, 1960-1972.

Zeitschrift für Nationalökonomie, Vol. 38, No. 3–4, 1978

Butschek, F. Auf der Suche nach der versteckten Arbeitslosigkeit!

Foster, C. and Neuburger, H. The Ugly Truth about Consumer's Surplus.

- **Hasenkamp, G. and Schrader, J.** Dual Polar Price and Quantity Aggregation.

Mishan, E. J. The Truth Plain or Ugly, but the Truth: A Rejoinder.

- **Narayanan, R.** A General Keynes-Ramsey Formula for the Two-Sector Growth Model.
- **Nermuth, M.** Equilibrium in Markets with Imprefect Information.

Pauwels, W. The Possible Perverse Behavior of the Compensating Variation as a Welfare Ranking.

- **Rao, T. V. S. R. and Kalpagam, U.** Dynamic Effects of Externalities, Optimal Saving and Economic Growth.

Rothschild, K. W. Replik [Auf der Suche nach der versteckten Arbeitslosigkeit!

- **Schefold, B.** On Counting Equations.
- **Sengupta, J. K.** Noncooperative Equilibria in Monopolistic Competition under Uncertainty.
- **Somermeyer, W. H. and van Daal, J.** Consistent Aggregation—An Alternative Derivation and a Generalization of Nataf's Theorem.
- **Spremann, K.** On Welfare Implications and Efficiency of Entrance Fee Pricing.

Steinmüller, H. Intra-Urban Wage Differentials and Housing.

Classification System for Articles and Abstracts

Subject Index of Articles in Current Periodicals

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000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

011 General Economics

● **Borchardt, K.** Wissenschaftliche Literatur als Medium wissenschaftlichen Fortschritts. (Scientific Publications as Media of Scientific Progress. With English summary.) *Jahr. Nationalökon. Statist.*, December 1978, *193*(6), pp. 481–99.

Caro, J.-Y. De quelques obstacles épistémologiques dans la conceptualisation des comportements. (Epistemological Point of View about the Conceptualisation of Individual Behaviors. With English summary.) *Revue Écon.*, July 1978, *29*(4), pp. 688–712.

Cavaco Silva, A. A. Políticos, Burocratas e economistas. (Politicians, Bureaucrats and Economists. With English summary.) *Economia*, October 1978, *2*(3), pp. 491–502.

Dowd, D. Consciousness, Character, and Capitalist Development. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 33–66.

● **Field, A. J.** On the Explanation of Rules Using Rational Choice Models. *J. Econ. Issues*, March 1979, *13*(1), pp. 49–72.

Goulet, D. Sufficiency for All: The Basic Mandate of Development and Social Economics. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 243–61.

Hadley, G. D. and Balke, T. E. A Comparison of Academic and Practitioner Views of Content Levels in the Undergraduate Accounting Curriculum. *Accounting Rev.*, April 1979, *54*(2), pp. 383–89.

● **Hill, L. E.** Social and Institutional Economics: Toward a Creative Synthesis. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 311–23.

Joelson, M. R. United States Law and the Proposed Code of Conduct on the Transfer of Technology. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 835–91.

Johnson, T. Research on Economic Education: How Well Is It Answering the Questions Asked? *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 22–27.

● **Katzner, D. W.** On not Quantifying the Nonquantifiable. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 113–28.

Kearl, J. R., et al. A Confusion of Economists? *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 28–37.

Koopmans, T. C. Economics among the Sciences. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 1–13.

● **Ladd, G. W.** Artistic Research Tools for Scientific Minds. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 1–11.

Lowry, S. T. A Nightmare in Introductory Economics. *J. Econ. Issues*, March 1979, *13*(1), pp. 225–28.

Müller-Armack, A. The Social Market Economy as an Economic and Social Order. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 325–31.

Petry, G. H. and Fuller, R. J. The Geographic Distribution of Papers at the Seven Academic Finance Associations in the United States. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 785–94.

● **Pöll, G.** Anspruchsniveau und permanente frustration im verbrauchsverhalten. (With English summary.) *Kyklos*, 1978, *31*(4), pp. 588–600.

Rauscher, A. The Necessity for, and the Limits of, the Social Welfare State. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 333–47.

Shoup, C. S. The Third Edition of the Handbuch der Finanzwissenschaft. *Finanzarchiv*, 1979, *37*(1), pp. 120–32.

Siegel, K. and Doty, P. "Advocacy Research" versus "Management Review": A Comparative Analysis. *Policy Anal.*, Winter 1979, *5*(1), pp. 37–65.

● **Stanfield, J. R.** On Social Economics. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 349–61.

● **Stigler, G. J. and Freidland, C.** The Pattern of Citation Practices in Economics. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 1–20.

● **Tichy, G. E.** Die Allgemeine Theorie der Wirtschaftspolitik und die Neue Politische Ökonomie. (General Theory of Economic Policy and the "New Political Economy." With English

020 GENERAL ECONOMIC THEORY

021 General Equilibrium Theory

69(2), pp. 303–07.

Sandberg, I. W. A Criterion for the Global Stability of a Price Adjustment Process. *J. Econ. Theory*, October 1978, *19*(1), pp. 192–99.

• **Schefold, B.** On Counting Equations. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 253–85.

Wilson, C. A. Equilibrium and Adverse Selection. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 313–17.

022 Microeconomic Theory

Ara, K. Parable and Realism in the Theory of Capital: A Generalization of Prof. Samuelson's Theory of Surrogate Production Function. *Hitotsubashi J. Econ.*, December 1978, *19*(1–2), pp. 33–48.

Aubareda, J. Steady-State Growth of the Long-Run Sales-Maximizing Firm. *Quart. J. Econ.*, February 1979, *93*(1), pp. 131–38.

• **Benhabib, J. and Nishimura, K.** On the Uniqueness of Steady States in an Economy with Heterogeneous Capital Goods. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 59–82.

Berczi, A. Chamberlin's Experimental Markets Revisited: A Computerized Journey. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 197–206.

• **Bernholz, P. and Faber, M.** Steady State and Superiority of Roundaboutness: A Comparison between the Neoclassical and a Neo-Austrian Approach. *Z. ges. Staatswiss.*, December 1978, *134*(4), pp. 703–14.

• **Bigman, D.** Technical Change, Distributive Shares, and Aggregation. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 434–46.

Bliss, C. and Stern, N. Productivity, Wages and Nutrition: Part II: Some Observations. *J. Devel. Econ.*, December 1978, *5*(4), pp. 363–98.

Bliss, C. and Stern, N. Productivity, Wages and Nutrition: Part I: The Theory. *J. Devel. Econ.*, December 1978, *5*(4), pp. 331–62.

• **Boyd, J. W.** Transaction Risk and Bidding Behavior. *Econ. Inquiry*, January 1979, *17*(1), pp. 75–88.

• **Braeutigam, R. R.** Optimal Pricing with Intermodal Competition. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 38–49.

Bródy, A. Marx after Steedman. *Acta Oecon.*, 1977, *19*(2), pp. 219–22.

Canziani, A. Per la pubblicazione dei "selected economic writings" di Fritz Machlup e di William J. Baumol. (On the Publication of the "Selected Economic Writings" by Fritz Machlup and William J. Baumol. With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 795–802.

Chapman, R. and Waverman, L. Risk Aversion, Uncertain Demand and the Effects of a Regulatory Constraint. *J. Public Econ.*, February 1979, *11*(1), pp. 107–21.

Crafton, S. M. Convenience Store Pricing and the Value of Time: A Note on the Becker-Devany Full Price Model. *Southern Econ. J.*, April 1979, *45*(4), pp. 1254–60.

• **Crawford, V. P.** A Procedure for Generating Pareto-Efficient Egalitarian-Equivalent Allocations. *Econometrica*, January 1979, *47*(1), pp. 49–60.

• **von Delhaes, K.** Transparenz, Reaktionsgeschwindigkeit und Verhaltensweise: Eine Modellanalyse zum Ablauf von Informationsund Lernprozessen auf homogenen Märkten. (Transparency, Speed of Adjustment and Market Conduct: Processes of Dispersion and Evaluation of Information in Homogeneous Markets, Analysed within a Simple Sequential Model. With English summary.) *Jahr. Nationalökon. Statist.*, December 1978, *193*(6), pp. 522–44.

• **Dunning, J. H. and Stilwell, F. J. B.** Theories of Business Behaviour and the Distribution of Surplus Profits. *Kyklos*, 1978, *31*(4), pp. 601–23.

Easton, B. H. A Relationship between Earnings Inequality and Wealth Inequality. *Econ. Rec.*, August 1978, *54*(146), pp. 237–38.

Endres, A. Monopoly-Power as a Means for Pollution-Control? *J. Ind. Econ.*, December 1978, *27*(2), pp. 185–87.

• **Färe, R. and Lovell, C. A. K.** Measuring the Technical Efficiency of Production. *J. Econ. Theory*, October 1978, *19*(1), pp. 150–62.

Ferrari, F. Un'analisi critica di alcune definizioni di complementarietà, sostituibilità, indipendenza. (A Critical Analysis of Some Definitions of Complementarity, Substitutability, Independence. With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 803–14.

Ferretti, M. Mobilità del capitale e teoria sraffiana: un modello semplificato e qualche esempio numerico. (Capital Mobility and Mr. Sraffa's Theory: A Simplified Model and Some Numerical Examples. With English summary.) *Giorn. Econ.*, September–October 1978, *37*(9–10), pp. 633–61.

Foster, C. and Neuburger, H. The Ugly Truth about Consumer's Surplus. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 379–88.

• **Friedman, J. W.** Non-Cooperative Equilibria for Exit Supergames. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 147–56.

• **Fujimoto, T.** Exploitation, Profits and Growth: A Disequilibrium Analysis. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 268–75.

Fujimori, Y. The Fundamental Marxian Theorem with Heterogeneous Labour. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 282–86.

Econ., February 1979, *26*(1), pp. 15–32.

• **Riley, J. G.** Informational Equilibrium. *Econometrica*, March 1979, *47*(2), pp. 331–59.

Riley, J. G. Noncooperative Equilibrium and Market Signalling. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 303–07.

Ross, S. A. Equilibrium and Agency—Inadmissible Agents in the Public Agency Problem. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 308–12.

• **Rossman, M. and Selden, L.** Time Preferences, Conditional Risk Preferences, and Two-Period Cardinal Utility. *J. Econ. Theory*, October 1978, *19*(1), pp. 64–83.

Salop, S. C. Strategic Entry Deterrence. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 335–38.

• **Schefold, B.** On Counting Equations. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 253–85.

Scott, R. H. A Note on Rents, Royalties, Leases, and Cost-Plus Contracts. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 145–48.

Sen, A. The Welfare Basis of Real Income Comparisons: A Survey. *J. Econ. Lit.*, March 1979, *17*(1), pp. 1–45.

• **Sengupta, J. K.** Noncooperative Equilibria in Monopolistic Competition under Uncertainty. *Z. Nationalökon.*, 1978, 38(3–4), pp. 193–208.

Smallwood, D. E. and Conlisk, J. Product Quality in Markets Where Consumers are Imperfectly Informed. *Quart. J. Econ.*, February 1979, *93*(1), pp. 1–23.

Spence, M. Product Differentiation and Performance in Insurance Markets. *J. Public Econ.*, December 1978, *10*(3), pp. 427–47.

• **Spremann, K.** On Welfare Implications and Efficiency of Entrance Fee Pricing. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 231–52.

Steedman, I. A Reply to Professor Bródy [Marx after Steedman]. *Acta Oecon.*, 1977, *19*(2), pp. 223–24.

Steinherr, A. The Labor-Managed Economy: A Survey of the Economics Literature. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 129–48.

Stiglitz, J. E. Equilibrium in Product Markets with Imperfect Information. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 339–45.

Stuart, C. A Confusion in the Treatment of Bilateral Monopoly. *Can. J. Econ.*, February 1979, *12*(1), pp. 100–104.

Timonen, J. and Hämäläinen, R. P. A Dynamic Example of the Intertemporal Price Discrimination Problem. *Scand. J. Econ.*, 1978, *80*(4), pp. 449–53.

• **Ulph, A. M. and Reynolds, I. K.** An Activities Model of Consumer Behaviour with Special Reference to Outdoor Recreation. *Scot. J. Polit. Econ.*, February 1979, *26*(1), pp. 33–60.

Uri, N. D. Marginal Cost Pricing with Joint Cost: A Different Objective. *J. Econ. Devel.*, July 1978, *3*(1), pp. 35–47.

Willig, R. D. Multiproduct Technology and Market Structure. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 346–51.

• **Wu, S. Y.** An Essay on Monopoly Power and Stable Price Policy. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 60–72.

• **Ylä-Liedenpohja, J.** Taxes, Dividends and Capital Gains in the Adjustment Cost Model of the Firm. *Scand. J. Econ.*, 1978, *80*(4), pp. 399–410.

• **Zweifel, P.** Die Translog-Näherung einer beliebigen Transformationskurve: Darstellung und Kritik. (The Translog Approximation to an Arbitrary Production Frontier: A Critical Guide. With English summary.) *Jahr. Nationalökon. Statist.*, October 1978, *193*(5), pp. 429–72.

023 Macroeconomic Theory

• **Aarrestad, J.** Optimal Savings and Exhaustible Resource Extraction in an Open Economy. *J. Econ. Theory*, October 1978, *19*(1), pp. 163–79.

Aoki, M. and Canzoneri, M. Reduced Forms of Rational Expectations Models. *Quart. J. Econ.*, February 1979, 93(1), pp. 59–71.

• **Barro, R. J.** Money and the Price Level under the Gold Standard. *Econ. J.*, March 1979, *89*(353), pp. 13–33.

Barro, R. J. Second Thoughts on Keynesian Economics. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 54–59.

Bigman, D. Capital Intensity and Regularity: A Note. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 273–76.

• **Bigman, D.** Technical Change, Distributive Shares, and Aggregation. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 434–46.

Blanchard, O. J. Backward and Forward Solutions for Economies with Rational Expectations. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 114–18.

Brems, H. Alternative Theories of Pricing, Distribution, Saving, and Investment. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 161–65.

Canziani, A. Per la pubblicazione dei "selected economic writings" di Fritz Machlup e di William J. Baumol. (On the Publication of the "Selected Economic Writings" by Fritz Machlup and William J. Baumol. With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 795–802.

Cho, D. W. The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States: Some Additional Evidence. *Southern Econ. J.*, April 1979, *45*(4), pp. 1285–91.

• **Clark, C. G.** Wages and Profits. *Oxford Econ.*

Taylor, J. B. Staggered Wage Setting in a Macro Model. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 108–13.

Wasow, B. Saving and Dependence with Externally Financed Growth. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 150–54.

● Weintraub, S. The Missing Theory of Money Wages. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 59–78.

024 Welfare Theory

● Anderson, J. E. On the Measurement of Welfare Cost under Uncertainty. *Southern Econ. J.*, April 1979, *45*(4), pp. 1160–71.

● Arrow, K. J. and Radner, R. Allocation of Resources in Large Teams. *Econometrica*, March 1979, *47*(2), pp. 361–85.

● Bailey, M. J. The Possibility of Rational Social Choice in an Economy. *J. Polit. Econ.*, February 1979, *87*(1), pp. 37–56.

● Boadway, R. A Note on the Treatment of Foreign Exchange in Project Evaluation. *Economica*, November 1978, *45*(180), pp. 391–99.

● Broome, J. Choice and Value in Economics. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 313–33.

Browning, E. K. The Welfare Cost of Taxation: A Further View. *Nat. Tax J.*, December 1978, *31*(4), pp. 415–17.

Castle, E. N. Property Rights and the Political Economy of Resource Scarcity: Reply. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 119.

● Crawford, V. P. A Procedure for Generating Pareto-Efficient Egalitarian-Equivalent Allocations. *Econometrica*, January 1979, *47*(1), pp. 49–60.

Crémer, J. A Comment on "Decentralized Planning and Increasing Returns" *J. Econ. Theory*, October 1978, *19*(1), pp. 217–21.

● Dániel, Z. Reflections on the Measurement of Living Standards and Social Welfare. *Acta Oecon.*, 1977, *19*(2), pp. 149–64.

Endres, A. Monopoly-Power as a Means for Pollution-Control? *J. Ind. Econ.*, December 1978, *27*(2), pp. 185–87.

Feldman, A. and Weiman, D. Envy, Wealth, and Class Hierarchies. *J. Public Econ.*, February 1979, *11*(1), pp. 81–91.

Foster, C. and Neuburger, H. The Ugly Truth about Consumer's Surplus. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 379–88.

● Gevers, L. On Interpersonal Comparability and Social Welfare Orderings. *Econometrica*, January 1979, *47*(1), pp. 75–89.

Goldman, S. M. and Sussangkarn, C. On the Concept of Fairness. *J. Econ. Theory*, October 1978, *19*(1), pp. 210–16.

● Guesnerie, R. Financing Public Goods with Commodity Taxes: The Tax Reform Viewpoint. *Econometrica*, March 1979, *47*(2), pp. 393–421.

Harford, J. D. The Spatial Aspects of Local Public Goods: A Note. *Public Finance Quart.*, January 1979, *7*(1), pp. 122–28.

● Hartog, F. Hennipman on Economic Policy and Welfare Economics: A Review Article. *De Economist*, 1978, *126*(4), pp. 456–73.

● Holcombe, R. G. Public Choice and Public Spending. *Nat. Tax J.*, December 1978, *31*(4), pp. 373–83.

● Intriligator, M. D. Income Redistribution: A Probabilistic Approach. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 97–105.

Jetzer, M. Zur ökonomischen Theorie des Staates: Betrachtungen zu Kästli und Saurer. (The Economic Theory of the State: Reflections on Kästli's and Saurer's Paper. With English summary.) *Schweiz. Z. Volkswirtsch. Statist.*, March 1979, *115*(1), pp. 15–20.

Just, R. E. and Zilberman, D. Asymmetry of Taxes and Subsidies in Regulating Stochastic Mishap. *Quart. J. Econ.*, February 1979, *93*(1), pp. 139–48.

● Kaneko, M. and Nakamura, K. The Nash Social Welfare Function. *Econometrica*, March 1979, *47*(2), pp. 423–35.

Karataş, C. Price Mechanism and the Need for Cost-Benefit Analysis in Developing Countries: A Survey. *METU*, Spring 1978, (19), pp. 31–49.

● Linnerooth, J. The Value of Human Life: A Review of the Models. *Econ. Inquiry*, January 1979, *17*(1), pp. 52–74.

Long, F. Ragnar Frisch: Econometrics and the Political Economy of Planning. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 141–53.

Manser, M. E. Comparing Households with Different Structures: The Problem of Equity. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 222–26.

Marin, A. National Income, Welfare, and the Environment. *Rev. Income Wealth*, December 1979, *24*(4), pp. 415–28.

Mishan, E. J. The Truth Plain or Ugly, but the Truth: A Rejoinder. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 389–96.

● Ng, Y.-K. Economic Growth and Social Welfare: The Need for a Complete Study of Happiness. *Kyklos*, 1978, *31*(4), pp. 575–87.

Ng, Y.-K. Optimal Club Size: A Reply. *Economica*, November 1978, *45*(180), pp. 407–10.

Pauwels, W. The Possible Perverse Behavior of the Compensating Variation as a Welfare Ranking. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 369–78.

Platts, A. R. The Use of the Measures of Economic Surplus in Cost-Benefit Analysis. *J. Econ. Stud.*, November 1978, *5*(2), pp. 133–45.

025 Social Choice; Bureaucratic Performance

026 Economics of Uncertainty and Information

- **Ali, M. M.** Some Evidence of the Efficiency of a Speculative Market. *Econometrica*, March 1979, *47*(2), pp. 387–92.
- **Anderson, J. E.** On the Measurement of Welfare Cost under Uncertainty. *Southern Econ. J.*, April 1979, *45*(4), pp. 1160–71.

d'Aspremont, C. and Gérard-Varet, L.-A. Incentives and Incomplete Information. *J. Public Econ.*, February 1979, *11*(1), pp. 25–45.

Blanchard, O. J. Backward and Forward Solutions for Economies with Rational Expectations. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 114–18.

Chapman, R. and Waverman, L. Risk Aversion, Uncertain Demand and the Effects of a Regulatory Constraint. *J. Public Econ.*, February 1979, *11*(1), pp. 107–21.

Dansby, R. E. Multi-Period Pricing with Stochastic Demand. *J. Econometrics*, January 1979, *9*(1/2), pp. 223–37.

- **Garbade, K. D.; Pomrenze, J. L. and Silber, W. L.** On the Information Content of Prices. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 50–59.

Gorman, G. E. and Shaw, L. Improving Information Flows on Current Development Research: A Western European Perspective. *Int. Soc. Sci. J.*, 1978, *30*(4), pp. 929–43.

Just, R. E. and Zilberman, D. Asymmetry of Taxes and Subsidies in Regulating Stochastic Mishap. *Quart. J. Econ.*, February 1979, *93*(1), pp. 139–48.

- **Kahneman, D. and Tversky, A.** Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, March 1979, *47*(2), pp. 263–91.
- **Kreps, D. M. and Porteus, E. L.** Dynamic Choice Theory and Dynamic Programming. *Econometrica*, January 1979, *47*(1), pp. 91–100.
- **Meyer, R. A.** Regulated Monopoly under Uncertainty. *Southern Econ. J.*, April 1979, *45*(4), pp. 1121–29.
- **Nermuth, M.** Equilibrium in Markets with Imperfect Information. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 209–30.
- **Raviv, A.** The Design of an Optimal Insurance Policy. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 84–96.
- **Riley, J. G.** Informational Equilibrium. *Econometrica*, March 1979, *47*(2), pp. 331–59.

Riley, J. G. Noncooperative Equilibrium and Market Signalling. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 303–07.

- **Rossman, M. and Selden, L.** Time Preferences, Conditional Risk Preferences, and Two-Period Cardinal Utility. *J. Econ. Theory*, October 1978, *19*(1), pp. 64–83.

Roth, T. P. External Economies, Tax Receipts, and Pareto Optimality: The Case of Information. *Public Finance Quart.*, January 1979, *7*(1), pp. 47–69.

- **Sengupta, J. K.** Noncooperative Equilibria in Monopolistic Competition under Uncertainty. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 193–208.

Smallwood, D. E. and Conlisk, J. Product Quality in Markets Where Consumers are Imperfectly Informed. *Quart. J. Econ.*, February 1979, *93*(1), pp. 1–23.

Stiglitz, J. E. Equilibrium in Product Markets with Imperfect Information. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 339–45.

Willis, R. E. Estimating Facility Size for Variable or Uncertain Activity Levels. *Eng. Econ.*, Summer 1978, *23*(4), pp. 223–30.

030 History of Economic Thought; Methodology

031 History of Economic Thought

Berczi, A. Chamberlin's Experimental Markets Revisited: A Computerized Journey. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 197–206.

- **Blaug, M.** The German Hegemony of Location Theory: A Puzzle in the History of Economic Thought. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 21–29.

Bródy, A. Marx after Steedman. *Acta Oecon.*, 1977, *19*(2), pp. 219–22.

Bruni, F. Appunti sulla teoria monetaria di knut wicksell: In occasione dell'edizione italiana di "Geldzins und Güterpreise." (Knut Wicksell's Monetary Theory: On the Occasion of the Italian Edition of "Geldzins und Güterpreise." With English summary.) *Giorn. Econ.*, September–October 1978, *37*(9–10), pp. 579–632.

Butlin, N. G. A Fraternal Farewell: Tribute to S. J. Butlin. *Australian Econ. Hist. Rev.*, September 1978, *18*(2), pp. 99–118.

Candeloro, D. The Single Tax Movement and Progressivism, 1880–1920. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 113–27.

Caro, J.-Y. De quelques obstacles épistémologiques dans la conceptualisation des comportements. (Epistemological Point of View about the Conceptualisation of Individual Behaviors. With English summary.) *Revue Écon.*, July 1978, *29*(4), pp. 688–712.

Castoriadis, C. From Marx to Aristotle, from Aristotle to Us. *Soc. Res.*, Winter 1978, *45*(4), pp. 667–738.

Cohen, J. L. System and Class: The Subversion of Emancipation. *Soc. Res.*, Winter 1978, *45*(4), pp. 789–843.

Sherman, H. J. "Technology *vis-a-vis* Institutions": A Marxist Commentary. *J. Econ. Issues,* March 1979, *13*(1), pp. 175–91.

Spellman, W. E. The Economics of Edward Alsworth Ross. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 129–40.

Steedman, I. A Reply to Professor Bródy [Marx after Steedman]. *Acta Oecon.*, 1977, *19*(2), pp. 223–24.

Tucker, G. S. L. The Political Economy of an Anonymous Critic of Malthus' Views on the Necessity of Unproductive Consumption. *Australian Econ. Hist. Rev.*, September 1978, *18*(2), pp. 119–40.

Weintraub, S. Samuel Johnson: A Closet Post Keynesian? *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 170–71.

Wolfson, M. Mr. Hunt and Mr. Marx [Three Stages in Marx's Thought]: Reply. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 157–65.

• **Wolfson, M.** Three Stages in Marx's Thought. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 117–46.

036 Economic Methodology

Bray, J. Reply to J. G. Meeks [Bray on Keynes on Scientific Method]. *J. Econ. Stud.*, November 1978, *5*(2), pp. 150.

Bray, J. Reply to John Naughton [The Logic of Scientific Method in Economics]. *J. Econ. Stud.*, November 1978, *5*(2), pp. 166.

Caro, J.-Y. De quelques obstacles épistémologiques dans la conceptualisation des comportements. (Epistemological Point of View about the Conceptualisation of Individual Behaviors. With English summary.) *Revue Écon.*, July 1978, *29*(4), pp. 688–712.

• **Field, A. J.** On the Explanation of Rules Using Rational Choice Models. *J. Econ. Issues,* March 1979, *13*(1), pp. 49–72.

• **Hill, L. E.** Social and Institutional Economics: Toward a Creative Synthesis. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 311–23.

• **Hunt, E. K.** The Normative Foundations of Social Theory: An Essay on the Criteria Defining Social Economics. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 285–309.

• **Katzner, D. W.** On not Quantifying the Nonquantifiable. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 113–28.

Kolm, S.-C. Science économique et position politique. (Economics and Political Position. With English summary.) *Revue Écon.*, July 1978, *29*(4), pp. 605–54.

Koopmans, T. C. Economics among the Sciences. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 1–13.

• **Ladd, G. W.** Artistic Research Tools for Scientific Minds. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 1–11.

Meeks, J. G. Bray on Keynes on Scientific Method: A Comment. *J. Econ. Stud.*, November 1978, *5*(2), pp. 146–50.

Naughton, J. The Logic of Scientific Method in Economics: A Response to Bray. *J. Econ. Stud.*, November 1978, *5*(2), pp. 152–65.

Petri, F. The Difference between Long-Period and Short-Period General Equilibrium and the Capital Theory Controversy. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 246–60.

Rashid, S. Richard Jones and Baconian Historicism at Cambridge. *J. Econ. Issues,* March 1979, *13*(1), pp. 159–73.

• **Remenyi, J. V.** Core Demi-core Interaction: Toward a General Theory of Disciplinary and Subdisciplinary Growth. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 30–63.

• **Shapiro, N.** Keynes and the Equilibrium Economics. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 207–23.

Sherman, H. J. "Technology *vis-a-vis* Institutions": A Marxist Commentary. *J. Econ. Issues,* March 1979, *13*(1), pp. 175–91.

• **Stanfield, J. R.** On Social Economics. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 349–61.

Sufrin, S. C. and Young, S. Applied Economic Analysis: Standards of Evaluation. *Rivista Int. Sci. Econ. Com.*, December 1978, *25*(12), pp. 1039–53.

• **Tichy, G. E.** Die Allgemeine Theorie der Wirtschaftspolitik und die Neue Politische Ökonomie. (General Theory of Economic Policy and the "New Political Economy." With English summary.) *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 289–307.

• **Wisman, J. D.** The Naturalistic Turn of Orthodox Economics: A Study of Methodological Misunderstanding. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 263–84.

• **Wisman, J. D.** Toward a Humanist Reconstruction of Economic Science. *J. Econ. Issues,* March 1979, *13*(1), pp. 19–48.

040 Economic History

041 Economic History: General

Adelman, I. and Morris, C. T. The Role of Institutional Influences in Patterns of Agricultural Development in the Nineteenth and Early Twentieth Centuries: A Cross-Section Quantitative Study. *J. Econ. Hist.*, March 1979, *39*(1), pp. 159–76.

• **Beresford, M. W.** The Decree Rolls of Chancery as a Source for Economic History, 1547–c.1700. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 1–10.

icy Problems in Cases of Unbalanced Domestic and International Economic Relations. *Scand. J. Econ.*, 1978, *80*(4), pp. 360–74.

Pettigrew, T. F. Racial Change and Social Policy. *Ann. Amer. Acad. Polit. Soc. Sci.*, January 1979, *441*, pp. 114–31.

Preston, S. H. and McDonald, J. The Incidence of Divorce within Cohorts of American Marriages Contracted since the Civil War. *Demography*, February 1979, *16*(1), pp. 1–25.

Roberts, C. A. Interregional Per Capita Income Differentials and Convergence: 1880–1950. *J. Econ. Hist.*, March 1979, *39*(1), pp. 101–12.

Schaefer, D. F. and Schmitz, M. D. The Relative Efficiency of Slave Agriculture: A Comment. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 208–12.

Spain, D. Race Relations and Residential Segregation in New Orleans: Two Centuries of Paradox. *Ann. Amer. Acad. Polit. Soc. Sci.*, January 1979, *441*, pp. 82–96.

Spencer, E. G. Rulers of the Ruhr: Leadership and Authority in German Big Business before 1914. *Bus. Hist. Rev.*, Spring 1979, *53*(1), pp. 40–64.

Steffen, C. G. The Pre-Industrial Iron Worker: Northampton Iron Works, 1780–1820. *Labor Hist.*, Winter 1979, *20*(1–2), pp. 89–110.

Tobin, E. M. Direct Action and Conscience: The 1913 Paterson Strike as Example of the Relationship between Labor Radicals and Liberals. *Labor Hist.*, Winter 1979, *20*(1–2), pp. 73–88.

Williamson, J. G. Inequality, Accumulation, and Technological Imbalance: A Growth-Equity Conflict in American History? *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 231–53.

Williams, G. The Changing U.S. Labor Force and Occupational Differentiation by Sex. *Demography*, February 1979, *16*(1), pp. 73–87.

Wright, G. The Efficiency of Slavery: Another Interpretation. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 219–26.

043 Economic History: Ancient and Medieval

Clark, J. R. Measuring the Flow of Goods with Archeological Data. *Econ. Geogr.*, January 1979, *55*(1), pp. 1–17.

Najemy, J. M. Guild Republicanism in Trecento Florence: The Successes and Ultimate Failure of Corporate Politics. *Amer. Hist. Rev.*, February 1979, *84*(1), pp. 53–71.

044 Economic History: Europe

Ahlström, G. Higher Technical Education and the Engineering Profession in France and Germany during the 19th Century: A Study on Technological Change and Industrial Performance. (With English summary.) *Econ. Hist.*, 1978, *21*(2), pp. 51–88.

• **Beresford, M. W.** The Decree Rolls of Chancery as a Source for Economic History, 1547–c.1700. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 1–10.

• **Bonney, R. J.** The Failure of the French Revenue Farms, 1600–60. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 11–32.

• **Chapman, S. D.** Financial Restraints on the Growth of Firms in the Cotton Industry, 1790–1850. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 50–69.

• **Cohen, J. S.** Facism and Agriculture in Italy: Policies and Consequences. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 70–87.

Collins, M. English Bank Deposits before 1844: A Comment. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 114–17.

• **Collins, M.** Monetary Policy and the Supply of Trade Credit, 1830-1844. *Economica*, November 1978, *45*(180), pp. 379–89.

• **Henderson, W. O.** Die Nachwirkungen der Listschen Gedanken, 1847–1853. (Friedrich List—The Aftermath, 1848–1853. With English summary.) *Jahr. Nationalökon. Statist.*, December 1978, *193*(6), pp. 545–57.

Hodne, F. New Evidence on the History of Tobacco Consumption in Norway, 1665–1970. *Econ. Hist.*, 1978, *21*(2), pp. 114–25.

• **Jones, W. O.** Turnips, the Seventh Day Adventist Principle, and Management Bias. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 141–57.

Jonung, L. and Wadensjö, E. A Model of the Determination of Wages and Prices in Sweden, 1922–1971. *Econ. Hist.*, 1978, *21*(2), pp. 104–13.

Kahan, A. Social Aspects of the Plague Epidemics in Eighteenth-Century Russia. *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 255–66.

Kikuchi, K. Condition of the British Workers in the Latter Half of the Nineteenth Century. *Kyoto Univ. Econ. Rev.*, April–October 1978, *48*(1–2), pp. 49–71.

Landes, D. S. Watchmaking: A Case Study in Enterprise and Change. *Bus. Hist. Rev.*, Spring 1979, *53*(1), pp. 1–39.

Nilsson, C.-A. and Schön, L. Factories in Sweden, 1820–1870: A Typological Approach. *Econ. Hist.*, 1978, *21*(2), pp. 89–103.

• **Ohlin, B.** 1933 and 1977—Some Expansion Policy Problems in Cases of Unbalanced Domestic and International Economic Relations. *Scand. J. Econ.*, 1978, *80*(4), pp. 360–74.

Overy, R. J. The German Motorisierung and Rearmament: A Reply. *Econ. Hist. Rev., 2nd*

A Disequilibrium Analysis. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 268–75.

Fujimori, Y. The Fundamental Marxian Theorem with Heterogeneous Labour. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 282–86.

Jones, D. C. Producer Cooperatives in Industrialized Western Economies: An Overview. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 149–61.

Kozlova, K. Left-Radical Political Economy in the USA. *Prob. Econ.*, October 1978, *21*(6), pp. 37–56.

Laakkonen, V. and Laurinkari, J. Evaluation Principles of Cooperative Productivity and Profitability. *Liiketaloudellinen Aikak.*, 1978, *27*(4), pp. 342–52.

Pesmazoglu, I. Institutions of Public and Co-operative Economy in a Modern Market Economy. *Ann. Pub. Co-op. Econ.*, July–December 1978, *49*(3–4), pp. 283–89.

Pestieau, P. and Quaden, G. Self-Management and Co-operation: General Presentation. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 123–27.

Postone, M. Necessity, Labor, and Time: A Reinterpretation of the Marxian Critique of Capitalism. *Soc. Res.*, Winter 1978, *45*(4), pp. 739–88.

Quaden, G. The Institutions of Public and Co-operative Economy in a Market Economy: Closing Meeting: Summing-up of Proceedings. *Ann. Pub. Co-op. Econ.*, July–December 1978, *49*(3–4), pp. 423–30.

Stauber, L. G. A Democratic Market Economy: A Response. *J. Compar. Econ.*, *2*(4), pp. 382–89.

052 Socialist and Communist Economic Systems

Albalkin, L. I. Socialist Economic Theory: Past and Present. *Prob. Econ.*, October 1978, *21*(6), pp. 15–29.

Ch'iang, L. Distinguish the Correct Line from the Incorrect Ones; Actively Develop Socialist Foreign Trade. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 83–97.

Franěk, R. Socialist Transformations in Agriculture. *Czech. Econ. Digest.*, November 1978, (7), pp. 19–35.

Gay, D. E. R. Property Rights and the Theory of the Firm under Hungary's New Economic Mechanism, 1968-1973. *Rivista Int. Sci. Econ. Com.*, November 1978, *25*(11), pp. 1021–28.

• **Hoch, R.** On the Theoretical Bases of Socialist Consumption Policy. *Acta Oecon.*, 1977, *19*(2), pp. 133–48.

Matůšek, O. Expression of Growing Activity and Initiative of Working People. *Czech. Econ. Digest.*, November 1978, (7), pp. 68–81.

McIntyre, R. J. and Thornton, J. R. Urban Design and Energy Utilization: A Comparative Analysis of Soviet Practice. *J. Compar. Econ.*, December 1978, *2*(4), pp. 334–54.

Pestieau, P. and Quaden, G. Self-Management and Co-operation: General Presentation. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 123–27.

Stauber, L. G. A Democratic Market Economy: A Response. *J. Compar. Econ.*, *2*(4), pp. 382–89.

Steinherr, A. The Labor-Managed Economy: A Survey of the Economics Literature. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 129–48.

Svejnar, J. Workers' Participation in Management in Czechoslovakia. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 177–201.

• **Szikszay, B.** Some Lessons from the Modifications of the System of Economic Regulation in Hungary. *Acta Oecon.*, 1977, *19*(2), pp. 121–32.

Thornton, J. A. Soviet Methodology for the Valuation of Natural Resources. *J. Compar. Econ.*, December 1978, *2*(4), pp. 321–33.

• **Yunker, J. A.** The Microeconomic Efficiency Argument for Socialism Revisited. *J. Econ. Issues*, March 1979, *13*(1), pp. 73–112.

Zwass, A. Inwieweit transferierbar sind die RGW-Währungen? (How Transferable are Comecon Currencies? With English summary.) *Kredit Kapital*, 1979, *12*(1), pp. 121–38.

Zwass, A. Money, Banking, and Credit in the Soviet Union and Eastern Europe. *Eastern Europ. Econ.*, Fall–Winter 1978–79, *17*(1–2), pp. 3–231.

053 Comparative Economic Systems

Brada, J. C. and Jackson, M. R. The Organization of Foreign Trade under Capitalism and Socialism. *J. Compar. Econ.*, *2*(4), pp. 293–320.

Conn, D. Economic Theory and Comparative Economic Systems: A Partial Literature Survey. *J. Compar. Econ.*, *2*(4), pp. 355–81.

Yunker, J. A. Investment Propensities under Capitalism and Market Socialism. *Rivista Int. Sci. Econ. Com.*, October 1978, *25*(10), pp. 842–57.

100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

111 Economic Growth Theory and Models

• **Benhabib, J. and Nishimura, K.** On the Uniqueness of Steady States in an Economy with Heterogeneous Capital Goods. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 59–82.

• **Bernholz, P. and Faber, M.** Steady State and Su-

periority of Roundaboutness: A Comparison between the Neoclassical and a Neo-Austrian Approach. *Z. ges. Staatswiss.*, December 1978, *134*(4), pp. 703–14.

Grinols, E. and Bhagwati, J. Foreign Capital, Savings and Dependence: A Reply to Mr. Wasow. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 154–56.

• Mitra, T. On Optimal Economic Growth with Variable Discount Rates: Existence and Stability Results. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 133–45.

• Mückl, W. J. On the Existence of a Two-Class Economy in the Cambridge Models of Growth and Distribution. *Jahr. Nationalökon. Statist.*, December 1978, *193*(6), pp. 508–17.

• Narayanan, R. A General Keynes-Ramsey Formula for the Two-Sector Growth Model. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 323–49.

• O'Connell, J. Savings and Prices in a Full-Employment Traverse. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 458–63.

• Orosel, G. O. On the Wage-Interest Curve, Its Dual Relation, and the Theory of Capital within a Two-Sector Vintage Model. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 367–87.

• Rao, T. V. S. R. and Kalpagam, U. Dynamic Effects of Externalities, Optimal Saving and Economic Growth. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 351–67.

Rao, T. V. S. R. Money, Convenience Services and Economic Growth. *Rivista Int. Sci. Econ. Com.*, December 1978, *25*(12), pp. 1112–23.

Wasow, B. Saving and Dependence with Externally Financed Growth. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 150–54.

112 Economic Development Models and Theories

Bacha, E. L. An Interpretation of Unequal Exchange from Prebisch-Singer to Emmanuel. *J. Devel. Econ.*, December 1978, *5*(4), pp. 319–30.

Berry, A. and Sabot, R. H. Labour Market Performance in Developing Countries: A Survey. *World Devel.*, November/December 1978, *6*(11/12), pp. 1119–1242.

Bruton, H. J. Labour Market Performance in Developing Countries: A Survey: Comment. *World Devel.*, November/December 1978, *6*(11/12), pp. 1243–46.

Day, R. H. and Fan, Y.-K. Adaptive Economics and Economic Development. *J. Econ. Devel.*, July 1978, *3*(1), pp. 7–33.

• Falvey, R. E. Trade Policies and Industralisation. *Econ. Rec.*, August 1978, *54*(146), pp. 256–60.

Findlay, R. Economic Development and the Theory of International Trade. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 186–90.

Glezakos, C. Inflation and Growth: A Reconsideration of the Evidence from the LDCs. *J. Devel. Areas*, January 1978, *12*(2), pp. 171–82.

Goulet, D. Sufficiency for All: The Basic Mandate of Development and Social Economics. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 243–61.

Grinols, E. and Bhagwati, J. Foreign Capital, Savings and Dependence: A Reply to Mr. Wasow. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 154–56.

• Hamilton, C. Appraising Capital Goods Imported to Developing Countries. *Scand. J. Econ.*, 1978, *80*(4), pp. 411–20.

Heller, P. The Underfinancing of Recurrent Development Costs. *Finance Develop.*, March 1979, *16*(1), pp. 38–41.

Leff, N. H. Entrepreneurship and Economic Development: The Problem Revisited. *J. Econ. Lit.*, March 1979, *17*(1), pp. 46–64.

Leontief, W. Population Growth and Economic Development: Illustrative Projections. *Population Devel. Rev.*, March 1979, *5*(1), pp. 1–27.

Mayer, J. Spatial Aspects of Basic-Needs Strategy: The Distribution of Essential Services. *Int. Lab. Rev.*, January–February 1979, *118*(1), pp. 59–74.

McHale, J. and McHale, M. C. Meeting Basic Human Needs. *Ann. Amer. Acad. Polit. Soc. Sci.*, March 1979, *442*, pp. 13–27.

Newlyn, W. T. Interpreting Polak: Monetary Analysis in 'Dependent' Economies: A Comment. *J. Devel. Stud.*, October 1978, *15*(1), pp. 118–19.

Schiavo-Campo, S. The Simple Measurement of Structural Change: A Note. *Econ. Rec.*, August 1978, *54*(146), pp. 261–63.

Szal, R. J. Popular Participation, Employment and the Fulfilment of Basic Needs. *Int. Lab. Rev.*, January–February 1979, *118*(1), pp. 27–38.

Todaro, M. P. Labour Market Performance in Developing Countries: A Survey: Comment. *World Devel.*, November/December 1978, *6*(11/12), pp. 1247–49.

Vanek, J. and Reinert, E. President Velasco's Third Way: A Strategy for Change. *Ann. Pub. Co-op. Econ.*, April–June 1978, *49*(2), pp. 163–76.

Wasow, B. Saving and Dependence with Externally Financed Growth. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 150–54.

Wassink, D. Economic Development with Unlimited Finances: Foreign Exchange Surplus in OPEC Countries. *Rivista Int. Sci. Econ. Com.*, December 1978, *25*(12), pp. 1086–96.

Waters, A. R. Working Capital and Technological Change. *J. Econ. Devel.*, July 1978, *3*(1), pp. 65–82.

113 **Economic Planning Theory and Policy**

Kiperman, G. The Effectiveness of Production and Economic Indicators. *Prob. Econ.*, November 1978, *21*(7), pp. 20–33.

Liberman, E. G. and Khaikin, V. P. How to Protect the Interests of the Consuming Enterprise. *Prob. Econ.*, October 1978, *21*(6), pp. 3–14.

Long, F. Ragnar Frisch: Econometrics and the Political Economy of Planning. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 141–53.

Szal, R. J. Popular Participation, Employment and the Fulfilment of Basic Needs. *Int. Lab. Rev.*, January–February 1979, *118*(1), pp. 27–38.

• **Szikszay, B.** Some Lessons from the Modifications of the System of Economic Regulation in Hungary. *Acta Oecon.*, 1977, *19*(2), pp. 121–32.

Vilenskii, M. Planning the Effect of Scientific-Technical Progress. *Prob. Econ.*, November 1978, *21*(7), pp. 3–19.

114 **Economics of War, Defense, and Disarmament**

• **Thompson, E. A.** An Economic Basis for the "National Defense Argument" for Aiding Certain Industries. *J. Polit. Econ.*, February 1979, *87*(1), pp. 1–36.

120 COUNTRY STUDIES

121 **Economic Studies of Less Industrialized Countries**

Adams, F. G.; Behrman, J. R. and Roldan, R. A. Measuring the Impact of Primary Commodity Fluctuations on Economic Development: Coffee and Brazil. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 164–68.

Askari, H.; Cummings, J. T. and Richter, G. Efficiency of *LDC* Trading Patterns: The Case of Iran. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 191–95.

Beenstock, M. Corruption and Development. *World Devel.*, January 1979, *7*(1), pp. 15–24.

Ch'ung, P. Fully Utilize and Actively Develop Shanghai's Industry and Make Even Greater Contributions toward the Realization of the Four Modernizations. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 153–68.

Corbo, V. and Meller, P. Trade and Employment: Chile in the 1960's. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 196–201.

Fajana, O. Trade and Growth: The Nigerian Experience. *World Devel.*, January 1979, *7*(1), pp. 73–78.

Ghosh, D. and Kazi, U. A Macroeconomic Model for Nigeria, 1958–1974. *Empirical Econ.*, 1978, *3*(3), pp. 135–54.

Glezakos, C. Inflation and Growth: A Reconsideration of the Evidence from the LDCs. *J. Devel. Areas*, January 1978, *12*(2), pp. 171–82.

Gordon, D. L. The Bank and the Development of Small Enterprises. *Finance Develop.*, March 1979, *16*(1), pp. 19–22.

Gronicki, M. Polish Economic Policy in the Nineteen-Seventies. *Nat. Westminster Bank Quart. Rev.*, February 1979, pp. 63–70.

Hayami, Y., et al. Agricultural Growth against a Land Resource Constraint: The Philippine Experience: Reply. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 210.

Hecht, R. The Rise of Radical African Studies: Review Article. *J. Devel. Stud.*, October 1978, *15*(1), pp. 120–26.

Hobday, P. Saudi Arabia Spends Her Oil Wealth. *Nat. Westminster Bank Quart. Rev.*, February 1979, pp. 43–50.

Hunter, J. M. and Ntiri, G. K. Speculations on the Future of Shifting Agriculture in Africa. *J. Devel. Areas*, January 1978, *12*(2), pp. 183–208.

James, W. E. Agricultural Growth against a Land Resource Constraint: The Philippine Experience: Comment. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 206–09.

Landell-Mills, P. The Southern African Customs Union: A Comment on Mosley's Reappraisal. *World Devel.*, January 1979, *7*(1), pp. 83–85.

Newfarmer, R. S. TNC Takeovers in Brazil: The Uneven Distribution of Benefits in the Market for Firms. *World Devel.*, January 1979, *7*(1), pp. 25–43.

O'Donnell, G. State and Alliances in Argentina, 1956–1976. *J. Devel. Stud.*, October 1978, *15*(1), pp. 3–33.

Pertot, V. Japan Seen from the Focus of Her Economic Policy. *Hitotsubashi J. Econ.*, December 1978, *19*(1–2), pp. 62–74.

Prescott, N. M. Schistosomiasis and Development. *World Devel.*, January 1979, *7*(1), pp. 1–14.

Ranaweera, T. W. Y. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): A Rejoinder. *J. Devel. Stud.*, October 1978, *15*(1), pp. 114–16.

Ranaweera, T. W. Y. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): A Comment. *J. Devel. Stud.*, October 1978, *15*(1), pp. 106–11.

Robinson, W. C. Economic Policy and Population Change in Thailand. *World Devel.*, November/December 1978, *6*(11/12), pp. 1261–69.

Saxe, J. Un regard nouveau sur l'analyse des problèmes de balance des paiements des pays en voie de développement. (A New Look on LDCs Balance of Payment Problems. With English

122 Economic Studies of More Industrialized Countries

123 Comparative Economic Studies Involving Both More and Less Industrialized Countries; Int'l Statistical Comparisons

veloping Countries: A Survey: Comment. *World Devel.*, November/December 1978, *6*(11/12), pp. 1243–46.

Capper, J. Petrochemicals: The Uncertain Outlook. *Nat. Westminster Bank Quart. Rev.*, November 1978, pp. 63–71.

Cohen, S. D. Coping with the New Protectionism. *Nat. Westminster Bank Quart. Rev.*, November 1978, pp. 2–15.

• Cornwall, J. Towards Full Employment and Price Stability: A Review of the OECD Report. *Kyklos*, 1978, *31*(4), pp. 662–78.

Gorman, G. E. and Shaw, L. Improving Information Flows on Current Development Research: A Western European Perspective. *Int. Soc. Sci. J.*, 1978, *30*(4), pp. 929–43.

von Hauenschield, G. and Grub, P. D. International Tourism as a Factor in Economic Development for the L.D.C.'s. *J. Econ. Devel.*, July 1978, *3*(1), pp. 153–72.

• Heller, H. R. and Khan, M. S. The Demand for International Reserves under Fixed and Floating Exchange Rates. *Int. Monet. Fund Staff Pap.*, December 1978, *25*(4), pp. 623–49.

Houthakker, H. S. and Kennedy, M. Long-Range Energy Prospects. *J. Energy Devel.*, Autumn 1978, *4*(1), pp. 1–28.

Jazairi, N. T. the Functional Form of the Relation between Alternative Real Income Comparisons. *Econ. J.*, March 1979, *89*(353), pp. 127–30.

Leontief, W. Population Growth and Economic Development: Illustrative Projections. *Population Devel. Rev.*, March 1979, *5*(1), pp. 1–27.

Morawetz, D. Basic Needs Policies and Population Growth. *World Devel.*, November/December 1978, *6*(11/12), pp. 1251–59.

• Peterson, W. L. International Farm Prices and the Social Cost of Cheap Food Policies. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 12–21.

Rimmer, D. Have-Not Nations: The Prototype. *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 307–25.

Smith, I. The Economics of Cane and Beet Sugar: A Rejoinder. *Econ. Hist.*, 1978, *21*(2), pp. 126–28.

• Timmermann, V.; Focke, G. and Ruiz, M. Supplementäre Strategien für Entwicklungsländer: Eine empirische Ermittlung strategischer Sektoren unter Verwendung der Input-Output-Technik. (Supplementary Strategies for Developing Countries: An Empirical Determination of Strategic Sectors by Means of the Input-Output-Technique. With English summary.) *Jahr. Nationalökon. Statist.*, October 1978, *193*(5), pp. 427–48.

Todaro, M. P. Labour Market Performance in Developing Countries: A Survey: Comment. *World Devel.*, November/December 1978, *6*(11/12), pp. 1247–49.

130 Economic Fluctuations; Forecasting; Stabilization; and Inflation

131 Economic Fluctuations

Chung, J. W. International Transactions and Domestic Cyclical Behavior. *J. Econ. Devel.*, July 1978, *3*(1), pp. 49–64.

• van Duijn, J. J. Dating Postwar Business Cycles in the Netherlands, 1948-1976. *De Economist*, 1978, *126*(4), pp. 474–504.

Mutikainen, T. and Mytty, I. Suhdanneindikaattorit lyhyen aikavälin ennustamisessa. (The Use of Cyclical Indicators in Short-Term Forecasting. With English summary.) *Kansant. Aikak.*, 1978, *74*(1), pp. 74–87.

• Sheffrin, S. M. Unanticipated Money Growth and Output Fluctuations. *Econ. Inquiry*, January 1979, *17*(1), pp. 1–13.

• Varian, H. R. Catastrophe Theory and the Business Cycle. *Econ. Inquiry*, January 1979, *17*(1), pp. 14–28.

• You, J. K. Capital Utilization, Productivity, and Output Gap. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 91–100.

132 Economic Forecasting and Econometric Models

• Babich, G. and Goodhew, J. Short Term Econometric Forecasting and Seasonal Adjustment. *Econ. Rec.*, August 1978, *54*(146), pp. 229–36.

• Baillie, R. T. The Asymptotic Mean Squared Error of Multistep Prediction from the Regression Model with Autoregressive Errors. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 175–84.

• Beenstock, M. and Bell, S. A Quarterly Econometric Model of the Capital Account in the U.K. Balance of Payments. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 33–62.

Cripps, F.; Fetherston, M. and Ward, T. The Effects of Different Strategies for the UK Economy. *Econ. Pol. Rev.*, March 1978, (4), pp. 5–21.

Dewald, W. G. and Marchon, M. N. Macroeconomic Goals and Prospects of the Carter Administration. *Ohio State U. Bull. Bus. Res.*, November 1978, *53*(11), pp. 1–8.

Fair, R. C. On Modeling the Effects of Government Policies. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 86–91.

Fetherston, M. Statistical Appendix. *Econ. Pol. Rev.*, March 1978, (4), pp. A1–30.

Ghosh, D. and Kazi, U. A Macroeconomic Model

133 General Outlook and Stabilization Theories and Policies

Price Stability: A Review of the OECD Report. *Kyklos*, 1978, *31*(4), pp. 662–78.

Cripps, F.; Fetherston, M. and Ward, T. The Effects of Different Strategies for the UK Economy. *Econ. Pol. Rev.*, March 1978, (4), pp. 5–21.

Deacon, R. T. An Economic Analysis of Gasoline Price Controls. *Natural Res. J.*, October 1978, *18*(4), pp. 801–14.

Dolde, W. Temporary Taxes as Macro-Economic Stabilizers. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 81–85.

Erickson, E. W., et al. The Political Economy of Crude Oil Price Controls. *Natural Res. J.*, October 1978, *18*(4), pp. 787–800.

Gardner, B. Robust Stabilization Policies for International Commodity Agreements. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 169–72.

Glynn, D. R. The Last 14 Years of Incomes Policy—A CBI Perspective. *Nat. Westminster Bank Quart. Rev.*, November 1978, pp. 23–34.

Gramlich, E. M. Stimulating the Macro Economy through State and Local Governments. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 180–85.

Hobday, P. Saudi Arabia Spends Her Oil Wealth. *Nat. Westminster Bank Quart. Rev.*, February 1979, pp. 43–50.

• **Levin, J. H.** The International Assignment of Stabilization Policies under Fixed and Flexible Exchange Rates. *J. Int. Econ.*, February 1979, *9*(1), pp. 65–80.

Lindblom, S. Suhdanne- ja rakennepolitiikan tavoitteenasettelu hitaan kasvun vallitessa. (The Setting of Targets for Structural Counter-Cyclical Policies under Slow Economic Growth. With English summary.) *Kansant. Aikak.*, 1978, *74*(3), pp. 271–92.

• **Lipschitz, L.** Exchange Rate Policies for Developing Countries: Some Simple Arguments for Intervention. *Int. Monet. Fund Staff Pap.*, December 1978, *25*(4), pp. 650–75.

Lutz, C. Che cos'è la politica strutturale? (What Is the Meaning of a "Structural Policy"? With English summary.) *Mondo Aperto*, December 1978, *32*(6), pp. 343–49.

• **Majer, H.** Die Problematik der Bestimmung von Konflikten wirtschaftspolitischer Ziele. (The Problem of Defining Conflicts of Economic Targets. With English summary.) *Jahr. Nationalök. Statist.*, October 1978, *193*(5), pp. 385–405.

Mathieson, D. J. The Optimal Crawl: A Reply. *J. Int. Econ.*, February 1979, *9*(1), pp. 137.

Miller, G. W. Statement to Congress. *Fed. Res. Bull.*, February 1979, *65*(2), pp. 119–22.

Miller, G. W. Statement to Congress. *Fed. Res. Bull.*, February 1979, *65*(2), pp. 127–30.

Mills, D. Q. SMR Forum: Comprehensive Wage-Price Policy. *Sloan Manage. Rev.*, Winter 1979, *20*(2), pp. 65–69.

• **Modigliani, F. and Papademos, L.** Optimal Demand Policies against Stagflation. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 736–82.

Moore, B., et al. A Return to Full Employment? *Econ. Pol. Rev.*, March 1978, (4), pp. 22–36.

Murphy, M. The Economic Council Annual Review: Comment. *Can. Public Policy*, Winter 1979, *5*(1), pp. 111–13.

Nichols, D. A. Comparing *TIP* to Wage Subsidies. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 207–11.

Paavela, P. Finanssi- ja rahapolitikan mahdollisuuksista kansantalouden elvyttämisessä. (The Use of Fiscal and Monetary Policy Measures to Stimulate the Economy. With English summary.) *Kansant. Aikak.*, 1978, *74*(1), pp. 3–10.

Paunio, J. Taloudellisen aktiviteetin lisääminen ilman inflaatiota. (Expansions without Inflation. With English summary.) *Kansant. Aikak.*, 1978, *74*(1), pp. 17–34.

Pekkarinen, J. Keynesiläinen suhdanneajattelu ja suomalainen suhdannekuva. (Keynesianism and the Finnish Conventional Wisdom in Stabilization Policy. With English summary.) *Kansant. Aikak.*, 1978, *74*(2), pp. 175–94.

• **Phelps, E. S.** Disinflation without Recession: Adaptive Guideposts and Monetary Policy. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 783–809.

• **Porter, M. G.** External Shocks and Stabilization Policy in a Small Open Economy: The Australian Experience. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 709–35.

• **Rahmeyer, F.** Die Rolle des Staatssektors in der Marktwirtschaft—Zum ökonomischen Grundsatzkapitel des Gutachens der "Kommission für wirtschaftlichen and sozialen Wandel." (The Role of the Public Sector in the Market Economy—A Critique of the Principle Economic Chapter of the Report of the "Commission for Economic and Social Change" in the Federal Republic of Germany. With English summary.) *Konjunkturpolitik*, 1978, *24*(5/6), pp. 291–320.

Ruini, C. The Italian Economy in 1977 and the Outlook for 1978. *Rev. Econ. Cond. Italy*, July 1978, *32*(4), pp. 231–53.

Savona, P. Il ruolo della moneta nelle politiche di gestione della domanda globale: note allo studio dell'ocse. (The Role of Money in Global Demand Management Policy: A Note on the OECD "Report." With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 733–43.

Sawyer, J. A. The Economic Council Annual Review: Comment. *Can. Public Policy*, Winter 1979, *5*(1), pp. 113–18.

Sedivý, Z. Czechoslovakia's Cooperation with

134 Inflation and Deflation

ployment in the Full-Employment Zone: A Theoretical Analysis. *Econ. Rec.*, August 1978, *54*(146), pp. 219–28.

• **Levi, M. D. and Makin, J. H.** Fisher, Phillips, Friedman and the Measured Impact of Inflation on Interest. *J. Finance*, March 1979, *34*(1), pp. 35–52.

Lévy-Garboua, V., et al. Chang, inflation et intérêt: Un modele. (Exchange Rate, Inflation and Interest Rate: A Model. With English summary.) *Revue Écon.*, September 1978, *29*(5), pp. 866–926.

Michael, R. T. Variation across Households in the Rate of Inflation. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 32–46.

• **Modigliani, F. and Papademos, L.** Optimal Demand Policies against Stagflation. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 736–82.

Ofek, H. Indexation of Contractual and Regulated Prices: A Methodology of Microindexation. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 119–25.

• **Ohlin, B.** 1933 and 1977—Some Expansion Policy Problems in Cases of Unbalanced Domestic and International Economic Relations. *Scand. J. Econ.*, 1978, *80*(4), pp. 360–74.

Paunio, J. Taloudellisen aktiviteetin lisääminen ilman inflaatiota. (Expansions without Inflation. With English summary.) *Kansant. Aikak.*, 1978, *74*(1), pp. 17–34.

• **Phelps, E. S.** Disinflation without Recession: Adaptive Guideposts and Monetary Policy. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 783–809.

Pick, J. F. Israel: New Measures Reflecting Inflation in the Israeli Tax Legislation. *Bull. Int. Fiscal Doc.*, 1978, *32*(12), pp. 547–50.

• **Piper, A. G.** Reporting the Effects of Inflation in Company Accounts in the United Kingdom. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 45–55.

Porzecanski, A. C. A Comparative Study of Exchange Rate Policy under Inflation. *J. Devel. Areas*, January 1978, *12*(2), pp. 133–52.

Ranaweera, T. W. Y. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): A Rejoinder. *J. Devel. Stud.*, October 1978, *15*(1), pp. 114–16.

Ranaweera, T. W. Y. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): A Comment. *J. Devel. Stud.*, October 1978, *15*(1), pp. 106–11.

• **Riddell, W. C.** The Empirical Foundations of the Phillips Curve: Evidence from Canadian Wage Contract Data. *Econometrica*, January 1979, *47*(1), pp. 1–24.

Rudolph, P. M. The Impact of Price, Expectations and Business Conditions on the Balance Sheet Structure of Firms. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 61–73.

• **Schoenfeld, H.-M. W.** Inflation Accounting—Development of Theory and Practice in Continental Europe. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 57–73.

Seidman, L. S. The Role of a Tax-Based Incomes Policy. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 202–06.

Sheehey, E. J. Inflation, Unemployment, and Expectations in Latin America—Some Simple Tests: Comment. *Southern Econ. J.*, April 1979, *45*(4), pp. 1292–98.

• **Siegel, J. J.** Inflation-Induced Distortions in Government and Private Saving Statistics. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 83–90.

de Silva, K. E. A. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): Reply. *J. Devel. Stud.*, October 1978, *15*(1), pp. 111–14.

Solnik, B. H. Inflation and Optimal Portfolio Choices. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 903–25.

Taylor, J. B. Staggered Wage Setting in a Macro Model. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 108–13.

• **Tysseland, M. S. and Gandhi, D. K.** Depreciation, Inflation, and Capital Formation in Public Utilities: One Possible Approach toward a Solution. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 99–113.

• **Ulmer, M. J.** Old and New Fashions in Employment and Inflation Theory. *J. Econ. Issues*, March 1979, *13*(1), pp. 1–18.

• **Vasarhelyi, M. A. and Pearson, E. F.** Studies in Inflation Accounting: A Taxonomization Approach. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 9–27.

• **Weintraub, S.** The Missing Theory of Money Wages. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 59–78.

200 Quantitative Economic Methods and Data

210 Econometric, Statistical, and Mathematical Methods and Models

211 Econometric and Statistical Methods and Models

Allais, M. On the Concept of Probability. *Rivista Int. Sci. Econ. Com.*, November 1978, *25*(11), pp. 937–56.

• **Amemiya, T.** The Estimation of a Simultaneous-Equation Tobit Model. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 169–81.

• **Anderson, T. W. and Sawa, T.** Evaluation of the Distribution Function of the Two-Stage Least

and the Linear Aggregation Coefficient. *Rivista Int. Sci. Econ. Com.*, November 1978, *25*(11), pp. 1015–20.

• **Lau, L. J.** On Exact Index Numbers. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 73–82.

Leamer, E. E. Information Criteria for Choice of Regression Models: A Comment. *Econometrica*, March 1979, *47*(2), pp. 507–10.

• **Maeshiro, A.** On the Retention of the First Observations in Serial Correlation Adjustment of Regression Models. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 259–65.

• **Mallela, P. and Rao, A. S.** Necessary and Sufficient Conditions for Inadmissibility of Transformations in Time. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 157–67.

Marasini, D. La stratificazione nel compionamento con risposte casualizzate. (The Stratification in the Sampling with Randomized Responses. With English summary.) *Statistica*, October–December 1978, *38*(4), pp. 493–506.

• **McLaren, K. R.** The Optimality of Rational Distributed Lags. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 183–91.

• **Neftçi, S. N.** Lead-Lag Relations, Exogeneity and Prediction of Economic Time Series. *Econometrica*, January 1979, *47*(1), pp. 101–13.

Ottaviani Millefiori, M. G. Il modello lineare a due dimensioni nel caso di estrazione in blocco. (Linear Model in Two Variables: The Case of Samples Drawn from a Finite Population without Replacement. With English summary.) *Statistica*, October–December 1978, *38*(4), pp. 537–47.

Parzen, E. and Pagano, M. An Approach to Modeling Seasonally Stationary Time Series. *J. Econometrics*, January 1979, *9*(1/2), pp. 137–53.

Pencavel, J. H. Constant-Utility Index Numbers of Real Wages: Revised Estimates. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 240–43.

• **Plosser, C. I.** Short-term Forecasting and Seasonal Adjustment. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 15–24.

Quandt, R. E. and Ramsey, J. B. Estimating Mixtures of Normal Distributions and Switching Regressions: Rejoinder. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 56.

Quintano, C. Su alcuni aspetti della multicollinerità nei modelli econometrici. (About Some Aspects of Multicollinearity in Econometric Models. With English summary.) *Rivista Int. Sci. Econ. Com.*, December 1978, *25*(12), pp. 1097–1111.

• **Reinsel, G. C.** A Note on the Estimation of the Adaptive Regression Model. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 193–202.

• **Reinsel, G.** Maximum Likelihood Estimation of Stochastic Linear Difference Equations with Autoregressive Moving Average Errors. *Econometrica*, January 1979, *47*(1), pp. 129–51.

• **Riddell, W. C.** The Use of the Stepwise Chow Test. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 242–47.

Sen, A. The Welfare Basis of Real Income Comparisons: A Survey. *J. Econ. Lit.*, March 1979, *17*(1), pp. 1–45.

• **Somermeyer, W. H. and van Daal, J.** Consistent Aggregation—An Alternative Derivation and a Generalization of Nataf's Theorem. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 287–303.

• **Spitzer, J. J.** Small-Sample Properties of Nonlinear Least Squares and Maximum Likelihood Estimators in the Context of Autocorrelated Errors. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 41–47.

Tan, W. On the Quadratic Estimation of Covariance Matrices in Manova Random Effect Models. *Statistica*, October–December 1978, *38*(4), pp. 449–58.

• **Thursby, J. G.** Alternative Specification Error Tests: A Comparative Study. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 222–25.

• **Tsurumi, H.** A Bayesian Test of a Parameter Shift in a Simultaneous Equation with an Application to a Macro Savings Function. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 216–30.

• **Wecker, W. E.** Predicting the Turning Points of a Time Series. *J. Bus.*, January 1979, *52*(1), pp. 35–50.

Winkler, R. L. and Franklin, L. A. Warner's Randomized Response Model: A Bayesian Approach. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 207–14.

Yilmaz, M. R. Cok-ölcütlü karar verme yöntemlerine eleştirisel bir bakiş. (With English summary.) *METU*, Spring 1978, (19), pp. 82–108.

• **Zellner, A. and Park, S.-B.** Minimum Expected Loss (MELO) Estimators for Functions of Parameters and Structural Coefficients of Econometric Models. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 185–93.

212 Construction, Analysis and Use of Econometric Models

Aoki, M. and Canzoneri, M. Reduced Forms of Rational Expectations Models. *Quart. J. Econ.*, February 1979, *93*(1), pp. 59–71.

• **Geisser, S. and Eddy, W. F.** A Predictive Approach to Model Selection. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 153–60.

• **Tan, K. C.** Optimal Control of Linear Econometric Systems with Linear Equality Constraints on the Control Variables. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 253–58.

tralia, 1968–69. *Econ. Rec.*, August 1978, *54*(146), pp. 159–69.

• **Petersen, H.-G.** Effects of Growing Incomes on Classified Income Distributions, the Derived Lorenz Curves, and Gini Indices. *Econometrica*, January 1979, *47*(1), pp. 183–98.

Rácz, A. Incomes of the Population and Their Proportions in Hungary. *Acta Oecon.*, 1977, *19*(2), pp. 203–14.

Roberts, C. A. Interregional Per Capita Income Differentials and Convergence: 1880–1950. *J. Econ. Hist.*, March 1979, *39*(1), pp. 101–12.

Sen, A. The Welfare Basis of Real Income Comparisons: A Survey. *J. Econ. Lit.*, March 1979, *17*(1), pp. 1–45.

• **Siegel, J. J.** Inflation-Induced Distortions in Government and Private Saving Statistics. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 83–90.

Walton, J. Current Cost Accounting: Implications for the Definition and Measurement of Corporate Income. *Rev. Income Wealth*, December 1979, *24*(4), pp. 357–90.

Woodward, J. T. Plant and Equipment Expenditures, Quarters of 1978 and First and Second Quarters of 1979. *Surv. Curr. Bus.*, December 1978, *58*(12), pp. 14–18.

222 Input-Output

Fink, G. and Skolka, J. Die Kapital-und Arbeitsintensität des österreichischen Aussenhandels 1964. (With English summary.) *Empirica*, 1978, (2), pp. 195–213.

Giannini, C. Cambiamento tecnologico e interdipendenze settoriali: una nota matematica. (Technological Change and the Input-Output Matrix. With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 815–20.

Kymn, K. O. and Kim, J. B. The Solution of the Generalized Inverse of an Aggregation Matrix and the Linear Aggregation Coefficient. *Rivista Int. Sci. Econ. Com.*, November 1978, *25*(11), pp. 1015–20.

Lee, Y. S. The INFORUM Type Input-Output Forecasting Model. *J. Econ. Devel.*, July 1978, *3*(1), pp. 113–51.

Lowe, P. D. Pricing Problems in an Input-Output Approach to Environment Protection. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 110–17.

Ritz, P. M. The Input-Output Structure of the U.S. Economy, 1972. *Surv. Curr. Bus.*, February 1979, *59*(2), pp. 34–43, 72.

224 National Wealth and Balance Sheets

• **Horsman, E. G.** Inheritance in England and Wales: The Evidence Provided by Wills. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 409–22.

225 Social Indicators and Social Accounts

Cobas, J. A. A Method to Estimate the Bureau of Labor Statistics Family Budgets for all Standard Metropolitan Statistical Areas. *Soc. Sci. Quart.*, December 1978, *59*(3), pp. 546–52.

McHale, J. and McHale, M. C. Meeting Basic Human Needs. *Ann. Amer. Acad. Polit. Soc. Sci.*, March 1979, *442*, pp. 13–27.

Root, N. and Hoefer, M. The First Work-Injury Data Available from New BLS Study. *Mon. Lab. Rev.*, January 1979, *102*(1), pp. 76–80.

Vining, D. R., Jr. Towards a National Urban Policy—Critical Reviews: The President's National Urban Policy Report: Issues Skirted and Statistics Omitted. *J. Reg. Sci.*, February 1979, *19*(1), pp. 69–77.

226 Productivity and Growth: Theory and Data

Bingham, T. R. G. Economic Growth and the Efficiency of Investment: A Cross-country Comparison. *Kansant. Aikak.*, 1978, *74*(1), pp. 68–73.

Desai, P. The Productivity of Foreign Resource Inflow to the Soviet Economy. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 70–75.

• **Ezaki, M.** Growth Accounting of Postwar Japan: The Input Side. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 193–215.

Gabet, C. Rentabilité et productivité. Une comparaison France-R.F.A. sur la période 1960–1974. (Profitability and Rentability: A France-Germany Comparison over the period 1960–1974. With English summary.) *Rev. Econ. Ind.*, 3rd Semester 1978, (5), pp. 151–59.

Guilhon, B. La notion de productivité et ses utilasations. (Productivity: Concepts and Utilization. With English summary.) *Rev. Econ. Ind.*, 3rd Semester 1978, (5), pp. 14–36.

• **Hulten, C. R.** On the "Importance" of Productivity Change. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 126–36.

• **May, J. D. and Denny, M.** Post-War Productivity in Canadian Manufacturing. *Can. J. Econ.*, February 1979, *12*(1), pp. 29–41.

227 Prices

Breuss, F. Energienachfrage und Potential Output in Gesamtwirtschaft und Industrie. (With English summary.) *Empirica*, 1978, (2), pp. 215–41.

Coutts, K. Short-Run Variations in Company Profits. *Econ. Pol. Rev.*, March 1978, (4), pp. 51–57.

Fisher, B. S. and Tanner, C. In Search of Hunt's Short-Run Price Cycles in the Sydney Wool Futures Market. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 129–34.

Howell, C., et al. Price Changes in 1978—An Analysis. *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 3–12.

Hudson, E. A. and Jorgenson, D. W. Energy Prices and the U.S. Economy, 1972–1976. *Natural Res. J.*, October 1978, *18*(4), pp. 877–97.

Morel, C. and Steinherr, A. An Empirical Study of World Market Influences on Price Formation in West Germany. *Empirical Econ.*, 1978, *3*(3), pp. 183–201.

• Ray, G. F. Export Prices of Primary Producers. *Nat. Inst. Econ. Rev.*, February 1979, (87), pp. 57–60.

228 Regional Statistics

Hunker, H. L. Population and Employment Change in Ohio in the 1970s. *Ohio State U. Bull. Bus. Res.*, October 1978, *53*(10), pp. 1–7.

229 Micro-data

Glazer, D. Exploiting the Micro-Data Foundation of the Current Population Survey. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 46–48.

• Shinkai, Y. An Analysis of the Bank of Japan's Business Survey Data. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 231–41.

300 Domestic Monetary and Fiscal Theory and Institutions

310 Domestic Monetary and Financial Theory and Institutions

Lutz, C. Che cos'è la politica strutturale? (What Is the Meaning of a "Structural Policy"? With English summary.) *Mondo Aperto,* December 1978, *32*(6), pp. 343–49.

311 Domestic Monetary and Financial Theory and Policy

Ahking, F. W. Mexico: The Open Economy—A Note. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 103–07.

Airikkala, R. Suomen Pankin rahapolitiikan teoreettisista perusteista. (Theoretical Justifications for Monetary Policy in Finland. With English summary.) *Kansant. Aikak.*, 1978, *74*(1), pp. 48–59.

Allan, R. H. and Valentine, T. J. An Econometric Analysis of Deposit Rates, Security Holdings and Last-Resort Borrowing in the Short-Term Money Market. *Australian J. Manage.*, April 1978, *3*(1), pp. 1–15.

• Balogh, T. Monetarism and the Oil Price Crisis. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 27–46.

• Barro, R. J. Money and the Price Level under the Gold Standard. *Econ. J.*, March 1979, *89*(353), pp. 13–33.

Berkman, N. G. and Kopcke, R. W. The Money Stock: Out of Control or What? *New Eng. Econ. Rev.*, January/February 1979, pp. 5–19.

Böhm, B. An Empirical Investigation of Monetary Effects on Private Consumption Expenditures in Austria. *Empirica*, 1978, (2), pp. 159–93.

Brundy, J. M.; Humphrey, D. B. and Kwast, M. L. Check Processing at Federal Reserve Offices. *Fed. Res. Bull.*, February 1979, *65*(2), pp. 97–103.

Bruni, F. Appunti sulla teoria monetaria di knut wicksell: In occasione dell'edizione italiana di "Geldzins und Güterpreise." (Knut Wicksell's Monetary Theory: On the Occasion of the Italian Edition of "Geldzins und Güterpreise." With English summary.) *Giorn. Econ.*, September–October 1978, *37*(9–10), pp. 579–632.

• Calvo, G. A. On Models of Money and Perfect Foresight. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 83–103.

Canarella, G. and Garston, N. Determination of Nominal Interest Rates: The Case of Italy. *Rivista Int. Sci. Econ. Com.*, October 1978, *25*(10), pp. 902–15.

Cargill, T. F. and Meyer, R. A. Stability of the Demand Function for Money: An Unresolved Issue. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 318–23.

Cho, D. W. The Relative Stability of Monetary Velocity and the Investment Multiplier in the United States: Some Additional Evidence. *Southern Econ. J.*, April 1979, *45*(4), pp. 1285–91.

Coldwell, P. E. Statement to Congress. *Fed. Res. Bull.*, February 1979, *65*(2), pp. 122–27.

Cornell, B. Do Money Supply Announcements Affect Short-Term Interest Rates? A Note. *J. Money, Credit, Banking,* February 1979, *11*(1), pp. 80–86.

Craine, R. N. and Pierce, J. L. Interest Rate Risk. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 719–32.

Danziger, L. The Transactions Demand for Cash: A Note on the Baumol-Tobin Theory. *Scand. J. Econ.*, 1978, *80*(4), pp. 440–48.

Deiss, J. The Regional Adjustment Process and Regional Monetary Policy. *Rivista Int. Sci. Econ. Com.*, October 1978, *25*(10), pp. 858–77.

Dewald, W. G. and Marchon, M. N. Macroeconomic Goals and Prospects of the Carter Administration. *Ohio State U. Bull. Bus. Res.*, November 1978, *53*(11), pp. 1–8.

Donovan, D. J. Modeling the Demand for Liquid Assets: An Application to Canada. *Int. Monet. Fund Staff Pap.*, December 1978, *25*(4), pp. 676–704.

Dothan, L. U. On the Term Structure of Interest Rates. *J. Finan. Econ.*, March 1978, *6*(1), pp. 59–69.

Falchi, G. and Michelangeli, M. Liquidità internazionale, politiche monetarie e inflazione mondiale. (International Liquidity, Monetary Policies and World Inflation. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1192–99.

• **Felmingham, B. S. and Bennett, P. A.** Monetary Policy Reaction in an Interdependent Instrument Setting. *Econ. Rec.*, August 1978, *54*(146), pp. 264–70.

Frowen, S. F. and Kouris, G. The Existence of a World Demand for Money Function: A Reply. *Kredit Kapital*, 1979, *12*(1), pp. 73–82.

Fuhrmann, W. Das heimische Geld- und Kreditangebot einer Euro-Währung. (The Domestic Money and Credit Supply of a Euro-Currency. With English summary.) *Kredit Kapital*, 1979, *12*(1), pp. 56–72.

Garcia, G. and Pak, S. Some Clues in the Case of the Missing Money. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 330–34.

Gilbert, R. A. Benefits of Borrowing from the Federal Reserve when the Discount Rate is Below Market Interest Rates. *Fed. Res. Bank St. Louis Rev.*, March 1979, *61*(3), pp. 25–32.

• **Gultekin, B. and Santomero, A. M.** Indexation, Expectations, and Stability. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 1–21.

Hamburger, M. J. and Zwick, B. The Efficacy of Selective Credit Policies: An Alternative Test: A Note. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 106–10.

• **Heller, H. R. and Khan, M. S.** The Demand for Money and the Term Structure of Interest Rates. *J. Polit. Econ.*, February 1979, *87*(1), pp. 109–29.

• **Hickman, B. G. and Schleicher, S.** The Interdependence of National Economies and the Synchronization of Economic Fluctuations: Evidence from the LINK Project. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 642–708.

Hunt, B. F. and Valentine, T. J. The Interdependence of Monetary Policy and Capital Flows in Australia: A Comment. *Econ. Rec.*, August 1978, *54*(146), pp. 281–85.

• **Jarchow, H.-J. and Möller, H.** Bestimmungsgründe der Zentralbankgeldmenge und Steuerungsmöglichkeiten: Eine theoretische und ökonometrische Analyse für die Bundesrepublik. (The Determinants of the Zentralbankgeldmenge" and Ways and Means of Its Control: A Theoretical and Econometric Analysis for the Federal Republic of Germany. With English summary.) *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 308–27.

• **Karni, E.** On the Specification of Asset Equilibrium in Macroeconomic Models: A Note. *J. Polit. Econ.*, February 1979, *87*(1), pp. 171–77.

Keran, M. W. and Al Malik, A. A. Monetary Sources of Inflation in Saudi Arabia. *Fed. Res. Bank San Francisco Econ. Rev.*, Supplement Winter 1979, pp. 5–27.

Keyder, N. Money Multiplier and the Determinants of Money Stock in Turkey, 1968–1977. *METU*, Spring 1978, (19), pp. 60–81.

Kim, P. J. Transactions Demand for Money: An Adaptation to Less Developed Countries. *J. Econ. Devel.*, July 1978, *3*(1), pp. 83–89.

Lang, R. W. The FOMC in 1978: Clarifying the Role of the Aggregates. *Fed. Res. Bank St. Louis Rev.*, March 1979, *61*(3), pp. 2–15.

Laufenberg, D. E. Optimal Reserve Requirement Ratios against Bank Deposits for Short-Run Monetary Control: A Note. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 99–105.

• **Levi, M. D. and Makin, J. H.** Fisher, Phillips, Friedman and the Measured Impact of Inflation on Interest. *J. Finance*, March 1979, *34*(1), pp. 35–52.

Lieberman, C. Structural and Technological Change in Money Demand. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 324–29.

Lomax, D. F. Monetary Policy. *Nat. Westminster Bank Quart. Rev.*, August 1978, pp. 2–6.

• **Masson, P. R.** Structural Models of the Demand for Bonds and the Term Structure of Interest Rates. *Economica*, November 1978, *45*(180), pp. 363–77.

Mathieson, D. J. Traded Goods, Nontraded Goods, and the Balance of Payments: A Reply. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 277–82.

• **McCallum, B. T.** Monetarism, Rational Expectations, Oligopolistic Pricing, and the MPS Econometric Model. *J. Polit. Econ.*, February 1979, *87*(1), pp. 57–73.

McCallum, B. T. The Current State of the Policy-Ineffectiveness Debate. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 240–45.

• **Mehra, Y. P. and Spencer, D. E.** The St. Louis Equation and Reverse Causation: The Evidence

Scheithauer, M. Die Oesterreichische Nationalbank im Spannungsfeld von Wachstum, Inflation und Rezession. (The Austrian National Bank under the Constraint of Growth, Inflation and Recession. With English summary.) *Kredit Kapital,* 1979, *12*(1), pp. 1–16.

• **Schulz, H.** Einige Anmerkungen zum internationalen Zinszusammenhang über den Eurodollarmarkt. (Some Remarks on the Interdependence of International Interest Rates via the Eurodollar Market. With English summary.) *Jahr. Nationalökon. Statist.,* October 1978, *193*(5), pp. 406–26.

Selby, E. B., Jr. The Recognition Lag of the Federal Advisory Council. *J. Finance,* March 1979, *34*(1), pp. 237–40.

Sharpe, I. G. and Volker, P. A. The Impact of Institutional Changes on the Australian Short-Run Money Demand Function. *Kredit Kapital,* 1979, *12*(1), pp. 101–20.

• **Sheffrin, S. M.** Unanticipated Money Growth and Output Fluctuations. *Econ. Inquiry,* January 1979, *17*(1), pp. 1–13.

Smith, D. The Demand for Alternative Monies in the UK: 1924–77. *Nat. Westminster Bank Quart. Rev.,* November 1978, pp. 35–49.

Smith, G. The Long Run Consequences of Monetary and Fiscal Policies When the Government's Budget is not Balanced. *J. Public Econ.,* February 1979, *11*(1), pp. 59–79.

Tatom, J. A. and Lang, R. W. Automatic Transfers and the Money Supply Process. *Fed. Res. Bank St. Louis Rev.,* February 1979, *61*(2), pp. 2–10.

• **Tullio, G.** Monetary Equilibrium and Balance-of-Payments Adjustment: An Empirical Test of the U.S. Balance of Payments, 1951–73. *J. Money, Credit, Banking,* February 1979, *11*(1), pp. 68–79.

Verwilst, H. The Liquidity Ratio as a Norm for Monetary Policy. *Tijdschrift Econ. Manage.,* 1978, *23*(4), pp. 493–97.

Woglom, G. Rational Expectations and Monetary Policy in a Simple Macroeconomic Model. *Quart. J. Econ.,* February 1979, *93*(1), pp. 91–105.

Yu, E. S. H. International Capital Movement, Sterilization and Internal and External Balances. *Rivista Int. Sci. Econ. Com.,* January 1979, *26*(1), pp. 51–63.

312 Commercial Banking

Benbow, R. F. A New Approach for Analysis and Control of the Yield from Commercial Customers. *J. Bank Res.,* Summer 1978, *9*(2), pp. 91–103.

Castiello, F. L'abusivismo bancario. (Banking Improprieties. With English summary.) *Bancaria,* November 1978, *34*(11), pp. 1068–85.

Civelek, M. A. On the Recent Financial Innovations in the Commercial Banking Sector of the American Economy. *Rivista Int. Sci. Econ. Com.,* October 1978, *25*(10), pp. 878–90.

Cornell, W. B. Determinants of the Bid-Ask Spread on Forward Foreign Exchange Contracts under Floating Exchange Rates. *J. Int. Bus. Stud.,* Fall 1978, *9*(2), pp. 33–41.

Craine, R. N. and Pierce, J. L. Interest Rate Risk. *J. Financial Quant. Anal.,* November 1978, *13*(4), pp. 719–32.

Cramer, R. H. and Miller, R. B. Multivariate Time Series Analysis of Bank Financial Behavior. *J. Financial Quant. Anal.,* December 1978, *13*(5), pp. 1003–17.

De Mattia, R. L'automazione delle Casse di risparmio e l'automazione interbancaria. (Adoption of Automation by Savings Banks and Interbank Automation. With English summary.) *Bancaria,* December 1978, *34*(12), pp. 1230–32.

Durand, R. M.; Eckrich, D. W. and Sprecher, C. R. Bank Image: An Adequacy-Importance Approach. *J. Bank Res.,* Autumn 1978, *9*(3), pp. 168–72.

Dyl, E. A. The Marginal Cost of Funds Controversy. *J. Bank Res.,* Autumn 1978, *9*(3), pp. 191–92.

Eatman, J. L. and Sealey, C. W., Jr. A Multiobjective Linear Programming Model for Commercial Bank Balance Sheet Management. *J. Bank Res.,* Winter 1979, *9*(4), pp. 227–36.

Eisenbeis, R. A. and Schweitzer, P. R. Tie-ins between the Granting of Credit and Sale of Insurance by Bank Holding Companies and Other Lenders. *Fed. Res. Bull.,* February 1979, *65*(2), pp. 110–11.

Elia, A. La banca in una società nuova Tema della XXXI International Banking Summer School. (Banking in a New Society-Theme of the XXXI International Banking Summer School. With English summary.) *Bancaria,* October 1978, *34*(10), pp. 991–99.

Evans, R. H. Bank Selection: It All Depends on the Situation. *J. Bank Res.,* Winter 1979, *9*(4), pp. 242–45.

Finocchiaro, A. Prospettive dell'attività della Convenzione per i prossimi anni. (Prospects for CIPA Activity in the Coming Years. With English summary.) *Bancaria,* December 1978, *34*(12), pp. 1233–35.

Firth, M. Qualified Audit Reports and Bank Lending Decisions. *J. Bank Res.,* Winter 1979, *9*(4), pp. 237–41.

Fraser, D. R. Holding Company Affiliation and Commercial Bank Market Share. *Antitrust Bull.,*

Bull., March 1979, *65*(3), pp. 242–44.

Patria, L. and Pontolillo, V. Strutture finanziarie e politica creditizia nello sviluppo del Mezzogiorno. (Financial Structures and Credit Policy in the Development of Southern Italy. With English summary.) *Bancaria*, September 1978, *34*(9), pp. 890–96.

du Pré de Saint-Maur, J. Le Financement du développement par les marches internationaux. (The Role of the International Markets in the Financing of Development. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1003–23.

Quantius, F. W. Review of the Glass-Steagall Act's Impact on Multinational Banking. *Ohio State U. Bull. Bus. Res.*, September 1978, *53*(9), pp. 1–3, 8.

Reynolds, F. D. and Wells, W. D. Life Style Analysis: A Dimension for Future-Oriented Bank Research. *J. Bank Res.*, Autumn 1978, *9*(3), pp. 181–85.

• **Richter, R.; McMahon, P. C. and Regier, H.-J.** Determinants of Free Liquid Reserves in the Federal Republic of Germany, 1960-1972. *Z. ges. Staatswiss.*, December 1978, *134*(4), pp. 686–702.

Ricketts, D. and Stover, R. An Examination of Commercial Bank Financial Ratios. *J. Bank Res.*, Summer 1978, *9*(2), pp. 121–24.

Roering, K. J. and Smith, P. E. A Distributed Lag Forecasting Model for Bank Loans and the Money Supply. *J. Bank Res.*, Summer 1978, *9*(2), pp. 104–11.

Salanitro, N. I depositi bancari del fallito. (Bank Deposits of Bankrupts. With English summary.) *Bancaria*, September 1978, *34*(9), pp. 877–89.

Saraceno, P. Nuovi assetti introdotti nel nostro sistema economico dalle misure richieste dalla grande crisi 1929–35. (New Features of the Italian Economy Resulting from Measures Necessitated by the Depression of 1929–35. With English summary.) *Bancaria*, November 1978, *34*(11), pp. 1053–59.

Sarcinelli, M. La banca centrale di fronte all'automazione del settore creditizio. (The Central Bank and Automation of Banking Business. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1220–24.

• **Saving, T. R.** Money Supply Theory with Competitively Determined Deposit Rates and Activity Charges. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 22–31.

Schweitzer, P. and Greene, J. Determinants and Consequences of Market Entry: A Case Study of Two Wisconsin Banking Markets. *J. Bank Res.*, Winter 1979, *9*(4), pp. 218–26.

Sealey, C. W., Jr. Interest-Bearing Demand Deposits, Bank Cost and Economic Efficiency. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 134–37.

Sharpe, W. F. Bank Capital Adequacy, Deposit Insurance and Security Values. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 701–18.

Smith, T. R. and Martin, D. The Determinants of Manpower Costs in the Examination of Banks in the Second Federal Reserve District. *J. Bank Res.*, Autumn 1978, *9*(3), pp. 161–67.

Tatom, J. A. and Lang, R. W. Automatic Transfers and the Money Supply Process. *Fed. Res. Bank St. Louis Rev.*, February 1979, *61*(2), pp. 2–10.

Trolle-Schultz, E. International Money Transfer Developments. *J. Bank Res.*, Summer 1978, *9*(2), pp. 73–77.

Tugendhat, C. Verso un mercato comune bancario. (Towards a Common Market in Banking. With English summary.) *Bancaria*, October 1978, *34*(10), pp. 965–69.

Winningham, S. More on the Alleged Profitability of Borrowing at 8% to Lend at 6% *J. Bank Res.*, Summer 1978, *9*(2), pp. 125–27.

Wotherspoon, G. Savings Banks and Social Policy in New South Wales, 1832–71. *Australian Econ. Hist. Rev.*, September 1978, *18*(2), pp. 141–63.

313 Financial Markets

Alexander, G. J.; Stover, R. D. and Kuhnau, D. B. Market Timing Strategies in Convertible Debt Financing. *J. Finance*, March 1979, *34*(1), pp. 143–55.

Allan, R. H. and Valentine, T. J. An Econometric Analysis of Deposit Rates, Security Holdings and Last-Resort Borrowing in the Short-Term Money Market. *Australian J. Manage.*, April 1978, *3*(1), pp. 1–15.

Arditti, F. D. Interest Rate Futures: An Intermediate Stage Toward Efficient Risk Reallocation. *J. Bank Res.*, Autumn 1978, *9*(3), pp. 146–50.

Babcock, G. C. Duration and Bond Portfolio Analysis: Comment. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 683–85.

Baker, C. C., Jr. and Vignola, A. J. Market Liquidity, Security Trading, and the Estimation of Empirical Yield Curves. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 131–35.

• **Ball, R.** Anomalies in Relationships between Securities' Yields and Yield-Surrogates. *J. Finan. Econ.*, June/September 1978, *6*(2/3), pp. 103–26.

• **Baron, D. P.** Investment Policy, Optimality, and the Mean-Variance Model: Review Article. *J. Finance*, March 1979, *34*(1), pp. 207–32.

Beckman, J. S. Securities Law and the Constitution: State Tender Offer Statutes Reconsidered.

Bank New York Quart. Rev., Winter 1978–79, *3*(4), pp. 26–40.

• Garbade, K. D.; Pomrenze, J. L. and Silber, W. L. On the Information Content of Prices. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 50–59.

• Garman, M. B. The Pricing of Supershares. *J. Finan. Econ.*, March 1978, *6*(1), pp. 3–10.

Gilbert, R. A. and Lovati, J. M. Disintermediation: An Old Disorder with a New Remedy. *Fed. Res. Bank St. Louis Rev.*, January 1979, *61*(1), pp. 10–15.

Gleit, A. Valuation of General Contingent Claims: Existence, Uniqueness, and Comparisons of Solutions. *J. Finan. Econ.*, March 1978, *6*(1), pp. 71–87.

Goss, B. A. The Supply of Storage: Stein vs. Snape. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 200–202.

Grauer, R. R. Generalized Two Parameter Asset Pricing Models: Some Empirical Evidence. *J. Finan. Econ.*, March 1978, *6*(1), pp. 11–32.

Grauer, F. L. A. and Litzenberger, R. H. The Pricing of Commodity Futures Contracts, Nominal Bonds and Other Risky Assets under Commodity Price Uncertainty. *J. Finance*, March 1979, *34*(1), pp. 69–83.

Gregory, D. D. Multiplicative Risk Premiums. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 947–63.

Grube, R. C.; Panton, D. B. and Terrell, J. M. Risks and Rewards in Covered Call Positions. *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 64–68.

Hakala, D. R. and Huggins, K. M. Has ERISA Had an Impact on Pension Investing? *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 44–47.

• Hamilton, J. L. Marketplace Fragmentation, Competition, and the Efficiency of the Stock Exchange. *J. Finance*, March 1979, *34*(1), pp. 171–87.

Hauge, G. Il mercato internazionale dei capitali ed il sistema monetario internazionale. (The International Capital Market and the International Monetary System. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1161–71.

• Hilliard, J. E. The Relationship between Equity Indices on World Exchanges. *J. Finance*, March 1979, *34*(1), pp. 103–14.

Hoskins, C. G. Capital Budgeting Decision Rules for Risky Projects Derived from a Capital Market Model Based on Semivariance. *Eng. Econ.*, Summer 1978, *23*(4), pp. 211–22.

• Hsu, D. A. Detecting Shifts of Parameter in Gamma Sequences with Applications to Stock Price and Air Traffic Flow Analysis. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 31–40.

Hurtado-Sanchez, L. Short Interest: Its Influence as a Stabilizer of Stock Returns. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 965–85.

Ingersoll, J. E., Jr.; Skelton, J. and Weil, R. L. Duration Forty Years Later. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 627–50.

Jensen, M. C. Some Anomalous Evidence Regarding Market Efficiency. *J. Finan. Econ.*, June/September 1978, *6*(2/3), pp. 95–101.

Judd, J. P. Competition between the Commercial Paper Market and Commercial Banks. *Fed. Res. Bank San Francisco Econ. Rev.*, Winter 1979, pp. 39–53.

Kane, E. J. Duration and Portfolio Strategy: Discussion. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 651–52.

• Kane, E. J. and Buser, S. A. Portfolio Diversification at Commercial Banks. *J. Finance*, March 1979, *34*(1), pp. 19–34.

Kaufman, G. G. Measuring Risk and Return for Bonds: A New Approach. *J. Bank Res.*, Summer 1978, *9*(2), pp. 82–90.

Lanstein, R. and Sharpe, W. F. Duration and Security Risk. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 653–68.

Levy, H. and Kroll, Y. Efficiency Analysis with Borrowing and Lending: Criteria and Their Effectiveness. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 125–30.

Logue, D. E. and Rogalski, R. J. Offshore Alphas: Should Diversification Begin at Home? *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 5–10.

• Manaster, S. Real and Nominal Efficient Sets. *J. Finance*, March 1979, *34*(1), pp. 93–102.

Marshall, W. J. and Yawitz, J. B. A Note on Consistent Estimation of a Capital Market Equation. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 121–25.

Massey, P. H. The Mutual Fund Liquidity Ratio: A Trap for the Unwary. *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 18–21.

• Masson, P. R. Structural Models of the Demand for Bonds and the Term Structure of Interest Rates. *Economica*, November 1978, *45*(180), pp. 363–77.

Melton, W. C. Corporate Equities and the National Market System. *Fed. Res. Bank New York Quart. Rev.*, Winter 1978–79, *3*(4), pp. 13–25.

Mennis, E. A. A New Method for Evaluating Pension Fund Portfolios. *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 34–42.

Miller, R. E. and Gehr, A. K. Sample Size Bias and Sharpe's Performance Measure: A Note. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 943–46.

Nichols, D. R.; Tsay, J. J. and Larkin, P. D.

Hutchinson, P. J. Financial Assistance to Small Firms: The American Experience. *Nat. Westminster Bank Quart. Rev.*, November 1978, pp. 50–62.

Longbrake, W. A. and Peterson, M. O. Regional and Intra-Regional Variations in Mortgage Loan Rates. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 75–83.

Seiders, D. F. Recent Developments in Mortgage and Housing Markets. *Fed. Res. Bull.*, March 1979, *65*(3), pp. 173–84.

Silberberg, R. Institutional Investors in the Real Estate, Mortgage Market in Victoria in the 1880s. *Australian Econ. Hist. Rev.*, September 1978, *18*(2), pp. 164–82.

Teeters, N. H. Statement to Congress. *Fed. Res. Bull.*, March 1979, *65*(3), pp. 239–42.

Teeters, N. H. Statement to Congress. *Fed. Res. Bull.*, February 1979, *65*(2), pp. 130–33.

320 Fiscal Theory and Policy; Public Finance

Freebairn, J. W. Pros and Cons of Temporary Industry Assistance. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 194–205.

Pesmazoglu, I. Institutions of Public and Co-operative Economy in a Modern Market Economy. *Ann. Pub. Co-op. Econ.*, July–December 1978, *49*(3–4), pp. 283–89.

White, A. N. Accessibility and Public Facility Location. *Econ. Geogr.*, January 1979, *55*(1), pp. 18–35.

321 Fiscal Theory and Policy

Boadway, R. W. and Bruce, N. Depreciation and Interest Deductions and the Effect of the Corporation Income Tax on Investment. *J. Public Econ.*, February 1979, *11*(1), pp. 93–105.

Browning, E. K. The Welfare Cost of Taxation: A Further View. *Nat. Tax J.*, December 1978, *31*(4), pp. 415–17.

• **Chan, K. S.** A Behavioral Model of Bureaucracy. *Southern Econ. J.*, April 1979, *45*(4), pp. 1188–94.

Colander, D. On Cost and Benefit Related Fees. *Nat. Tax J.*, December 1978, *31*(4), pp. 407–09.

• **Cordes, J. J. and Weisbrod, B. A.** Governmental Behavior in Response to Compensation Requirements. *J. Public Econ.*, February 1979, *11*(1), pp. 47–58.

Dolde, W. Temporary Taxes as Macro-Economic Stabilizers. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 81–85.

Dowell, R. Resources Rent Taxation. *Australian J. Manage.*, October 1978, *3*(2), pp. 127–46.

Fair, R. C. On Modeling the Effects of Government Policies. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 86–91.

• **Fellingham, J. C. and Wolfson, M. A.** The Effects of Alternative Income Tax Structures on Risk Taking in Capital Markets. *Nat. Tax J.*, December 1978, *31*(4), pp. 339–47.

Folsom, R. N. Neutral Capital Gains Taxation under Inflation and Tax Deferral. *Nat. Tax J.*, December 1978, *31*(4), pp. 401–05.

Foulon, A. and Hatchuel, G. Les effets redistributifs des finances publiques en 1965 et 1970. (The Redistribution of Public Finances in France in 1965 and 1970. With English summary.) *Consommation*, July–September 1978, *25*(3), pp. 3–63.

Gramlich, E. M. Stimulating the Macro Economy through State and Local Governments. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 180–85.

• **Guesnerie, R.** Financing Public Goods with Commodity Taxes: The Tax Reform Viewpoint. *Econometrica*, March 1979, *47*(2), pp. 393–421.

Gunn, A. Tax Avoidance. *Mich. Law Rev.*, April 1978, *76*(5), pp. 733–67.

• **Hartog, F.** Hennipman on Economic Policy and Welfare Economics: A Review Article. *De Economist*, 1978, *126*(4), pp. 456–73.

Helpman, E. and Sadka, E. Optimal Financing of the Government's Budget: Taxes, Bonds, or Money? *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 152–60.

• **Holcombe, R. G.** Public Choice and Public Spending. *Nat. Tax J.*, December 1978, *31*(4), pp. 373–83.

Jetzer, M. Zur ökonomischen Theorie des Staates: Betrachtungen zu Kästli und Saurer. (The Economic Theory of the State: Reflections on Kästli's and Saurer's Paper. With English summary.) *Schweiz. Z. Volkswirtsch. Statist.*, March 1979, *115*(1), pp. 15–20.

Just, R. E. and Zilberman, D. Asymmetry of Taxes and Subsidies in Regulating Stochastic Mishap. *Quart. J. Econ.*, February 1979, *93*(1), pp. 139–48.

Karataş, C. Price Mechanism and the Need for Cost-Benefit Analysis in Developing Countries: A Survey. *METU*, Spring 1978, (19), pp. 31–49.

Keskumäki, O. Julkinen sektori kansantaloustieteellisen tutkimuksen kohteena. (Public Sector as a Field of Economic Research. With English summary.) *Kansant. Aikak.*, 1978, *74*(3), pp. 317–30.

• **Lloyd, P. J.** Wage Indexation: The Treatment of Public Sector Taxes and Goods. *Econ. Rec.*, August 1978, *54*(146), pp. 182–94.

• **Longo, C. A.** Tax Coordination under Benefit Taxation. *Nat. Tax J.*, December 1978, *31*(4), pp. 385–89.

Manser, M. E. Comparing Households with Different Structures: The Problem of Equity. *Amer.*

322 National Government Expenditures and Budgeting

There an Urban Policy? *J. Reg. Sci.*, February 1979, *19*(1), pp. 93–108.

Greene, K. V. and Munley, V. G. Generating Growth in Public Expenditures: The Role of Employee and Constituent Demand. *Public Finance Quart.*, January 1979, *7*(1), pp. 92–109.

Herzlinger, R. E. Zero-Base Budgeting in the Federal Government: A Case Study. *Sloan Manage. Rev.*, Winter 1979, *20*(2), pp. 3–14.

Higgins, T. Parliamentary Control of Public Expenditure—A Back Bench Revolt? *Nat. Westminster Bank Quart. Rev.*, August 1978, pp. 26–35.

Leipert, C. Zum Problem der wohlfahrtsbezogenen Einschätzung des Staatskonsums. (On the Problem of Public-Welfare-Related Evaluation of Government Consumption. With English summary.) *Konjunkturpolitik*, 1978, *24*(5/6), pp. 321–38.

Musgrave, R. A. The Tax Revolt. *Soc. Sci. Quart.*, March 1979, *59*(4), pp. 697–703.

Pluta, J. E. Wagner's Law, Public Sector Patterns, and Growth of Public Enterprises in Taiwan. *Public Finance Quart.*, January 1979, *7*(1), pp. 25–46.

Richebächer, K. Deficit Spending—A Damaging Palliative. *Nat. Westminster Bank Quart. Rev.*, August 1978, pp. 16–25.

Roper, B. W. The Limits of Public Support. *Ann. Amer. Acad. Polit. Soc. Sci.*, March 1979, *442*, pp. 40–45.

Short, J. The Regional Distribution of Public Expenditure in Great Britain, 1969/70–1973/74. *Reg. Stud.*, 1978, *12*(5), pp. 499–510.

• **Siegel, J. J.** Inflation-Induced Distortions in Government and Private Saving Statistics. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 83–90.

Waite, C. A. and Wakefield, J. C. Federal Fiscal Programs. *Surv. Curr. Bus.*, February 1979, *59*(2), pp. 21–33.

Wakefield, J. C. Federal Budget Developments. *Surv. Curr. Bus.*, November 1978, *58*(11), pp. 14–17.

Walker, M. A. The Budget [A View]. *Can. Public Policy*, Winter 1979, *5*(1), pp. 105–10.

323 National Taxation and Subsidies

Anderson, K. On Why Rates of Assistance Differ between Australia's Rural Industries. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 99–114.

Bhatia, K. B. Corporate Taxation, Retained Earnings, and Capital Formation. *J. Public Econ.*, February 1979, *11*(1), pp. 123–34.

Blanckensee, R. E. Overseas Investment in Australian Oil and Gas. *Bull. Int. Fiscal Doc.*, 1978, *32*(12), pp. 526–32.

Brannon, G. M. Tax Policy and Producer Incentives in the Energy Crisis. *Growth Change*, January 1979, *10*(1), pp. 28–36.

Brannon, G. M. Taxation and the Political Economy of the Energy "Crisis" *Natural Res. J.*, October 1978, *18*(4), pp. 825–43.

Breyer, S. Taxes as a Substitute for Regulation. *Growth Change*, January 1979, *10*(1), pp. 39–52.

Buchanan, J. M. The Potential for Taxpayer Revolt in American Democracy. *Soc. Sci. Quart.*, March 1979, *59*(4), pp. 691–96.

Candeloro, D. The Single Tax Movement and Progressivism, 1880–1920. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 113–27.

Casna, R. P. The Foreign Earned Income Act of 1978: The Taxation of U.S. Citizens Overseas. *Bull. Int. Fiscal Doc.*, 1979, *33*(1), pp. 19–24.

Chard, J. S. and Macmillen, M. J. Sectoral Aids and Community Competition Policy: The Case of Textiles. *J. World Trade Law*, March–April 1979, *13*(2), pp. 132–57.

Cosciani, C. Struttura dei sistemi tributari e loro riforma. (Structure and Reform of Tax Systems. With English summary.) *Bancaria*, October 1978, *34*(10), pp. 957–64.

• **Davidson, P.** The United States Internal Revenue Service: Fourteenth Member of OPEC? *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 47–58.

Drapkin, D. B. Taxes as a Substitute for Regulation: Comment. *Growth Change*, January 1979, *10*(1), pp. 53–54.

Ezejelue, A. C. Nigeria: Canons of Taxation and Personal Income Tax. *Bull. Int. Fiscal Doc.*, 1978, *32*(12), pp. 533–39.

Folsom, R. N. Neutral Capital Gains Taxation under Inflation and Tax Deferral. *Nat. Tax J.*, December 1978, *31*(4), pp. 401–05.

Foulon, A. and Hatchuel, G. Les effets redistributifs des finances publiques en 1965 et 1970. (The Redistribution of Public Finances in France in 1965 and 1970. With English summary.) *Consommation*, July–September 1978, *25*(3), pp. 3–63.

Frair, L. C. and Devine, M. D. The Consideration of Depletion in After-Tax Optimization Models. *Eng. Econ.*, Fall 1978, *24*(1), pp. 13–27.

von Furstenberg, G. M. Taxation of Crude Oil, Gasoline, and Related Fuels and Commodities: Comment. *Growth Change*, January 1979, *10*(1), pp. 87–89.

• **Giertz, J. F. and Sullivan, D. H.** Housing Tenure and Horizontal Equity. *Nat. Tax J.*, December 1978, *31*(4), pp. 329–38.

Gillis, M. A Tale of Two Minerals: Severance Taxes on Energy Resources in the United States.

Growth Change, January 1979, *10*(1), pp. 55–71.

Gunn, A. Tax Avoidance. *Mich. Law Rev.*, April 1978, *76*(5), pp. 733–67.

• **Hamermesh, D. S.** New Estimates of the Incidence of the Payroll Tax. *Southern Econ. J.*, April 1979, *45*(4), pp. 1208–19.

Hope, K. R. Some Economic Effects of the Corporate Profits Tax: A Theoretical Appraisal with Special Reference to Canada. *Bull. Int. Fiscal Doc.*, 1978, *32*(12), pp. 551–56.

Jao, Y. C. Hong Kong's New Tax on Offshore Banking Profits. *Bull. Int. Fiscal Doc.*, 1979, *33*(1), pp. 15–18.

Jeynes, P. H. Effective or Nominal Federal Income Tax Rates in Engineering Economy Studies? Or Neither?—A Comment. *Eng. Econ.*, Fall 1978, *24*(1), pp. 62–64.

Kelso, P. R. New Taxes for the Capital Shortage: A Critical Review. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 67–81.

Madre, J.-L. Les effets redistributifs des finances publiques dans le domaine des transports urbains. (The Redistributive Effects of Public Funds on Urban Transports. With English summary.) *Consommation*, July–September 1978, *25*(3), pp. 101–17.

Mann, A. J. The New Tax Exemption Law in Puerto Rico. *Bull. Int. Fiscal Doc.*, 1979, *33*(1), pp. 8–14.

• **McLure, C. E., Jr.** A Status Report on Tax Integration in the United States. *Nat. Tax J.*, December 1978, *31*(4), pp. 313–28.

McLure, C. E., Jr. A Tale of Two Minerals: Severance Taxes on Energy Resources in the United States: Comment. *Growth Change*, January 1979, *10*(1), pp. 72–74.

Musgrave, R. A. The Tax Revolt. *Soc. Sci. Quart.*, March 1979, *59*(4), pp. 697–703.

Pauly, R. Personal Income Tax Policies: A Study for West-Germany. *Empirical Econ.*, 1978, *3*(3), pp. 155–81.

Paus-Jenssen, A. Resource Taxation and the Supreme Court of Canada: The Cigol Case. *Can. Public Policy*, Winter 1979, *5*(1), pp. 45–58.

Peles, Y. C. and Sarnat, M. Corporate Taxes and Capital Structure: Some Evidence Drawn from the British Experience. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 118–20.

Penner, R. G. Tax Policy and Producer Incentives in the Energy Crisis: Comment. *Growth Change*, January 1979, *10*(1), pp. 37–38.

Perloff, J. M. and Wachter, M. L. The New Jobs Tax Credit: An Evaluation of the 1977–78 Wage Subsidy Program. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 173–79.

Pick, J. F. Israel: New Measures Reflecting Inflation in the Israeli Tax Legislation. *Bull. Int. Fi cal Doc.*, 1978, *32*(12), pp. 547–50.

Porter, M. D. Freight Rates May Discriminat against Recycled Materials. *Natural Res.* January 1979, *19*(1), pp. 229–33.

Quester, A. Women's Behavior and the T Code. *Soc. Sci. Quart.*, March 1979, *59*(4), p 665–80.

Renshaw, E. F. Taxation of Crude Oil, Gasolin and Related Fuels and Commodities. *Grow Change*, January 1979, *10*(1), pp. 75–86.

• **Rosen, H. S.** Housing Decisions and the U.S. I come Tax: An Econometric Analysis. *J. Publ Econ.*, February 1979, *11*(1), pp. 1–23.

Senese, D. J. The IRS and the Private School 'The Power to Tax Involves the Power to D stroy' *Policy Rev.*, Spring 1979, (8), pp. 67–8

Stack, S. The Impact of Political and Econom Organization on Income Tax Structures: A Con parative Analysis. *Mich. Academician*, Winte 1979, *11*(3), pp. 251–61.

Sumner, M. T. A Skeptical Note on the Efficac of Temporary Sales Tax Reductions. *Can. Publ Policy*, Winter 1979, *5*(1), pp. 97–101.

Thimmaiah, G. Tax Reform in India: An Evalu tion of the Report of the Indirect Taxation E quiry Committee (1977–78) *Bull. Int. Fisc Doc.*, 1979, *33*(2), pp. 51–60.

Vleminckx, A. Negative Income Taxes and th Elimination of Poverty: The Case of Belgiur *Tijdschrift Econ. Manage.*, 1978, *23*(4), pp. 445 70.

Yokell, M. D. The Role of the Government i Subsidizing Solar Energy. *Amer. Econ. Rev.*, Ma 1979, *69*(2), pp. 357–61.

324 State and Local Government Finance

Beebe, J. H. The Effect of Proposition 13 on Cal fornia Municipal Debt. *Fed. Res. Bank San Fra cisco Econ. Rev.*, Winter 1979, pp. 25–38.

Bell, M. and Fisher, R. C. State Limitations o Local Taxing and Spending Powers: Commen and Re-Evaluation. *Nat. Tax J.*, December 197 *31*(4), pp. 391–95.

Funk, G. M. and Kryscio, R. J. Equity and th Property Tax: Comments on Two Seemingl Unrelated Conceptual Frameworks. *Nat. Tax J* December 1978, *31*(4), pp. 411–13.

Gilbert, D. A. Property Tax Base Sharing: An A swer to Central City Fiscal Problems? *Soc. Sc Quart.*, March 1979, *59*(4), pp. 681–90.

Gramlich, E. M. Stimulating the Macro Econom through State and Local Governments. *Ame Econ. Rev.*, May 1979, *69*(2), pp. 180–85.

Jose, H. D. The Incidence of Property Tax i Rural Saskatchewan. *Can. J. Agr. Econ* February 1979, *27*(1), pp. 1–14.

Katz, H. C. Municipal Pay Determination: The Case of San Francisco. *Ind. Relat.*, Winter 1979, *18*(1), pp. 44–58.

Kopcke, R. W. and Kimball, R. C. Investment Incentives for State and Local Governments. *New Eng. Econ. Rev.*, January/February 1979, pp. 20–40.

Ladd, H. F. State Limitations on Local Taxing and Spending Powers: A Response. *Nat. Tax J.*, December 1978, *31*(4), pp. 397–98.

Levin, D. J. State and Local Government Fiscal Position in 1978. *Surv. Curr. Bus.*, December 1978, *58*(12), pp. 19–22.

Mikesell, J. L. General Property Reassessment: Relative Tax Impacts on Land and on Structures. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 155–61.

Newacheck, P. W. Capitalization: The Price of School Finance Reform. *Policy Anal.*, Winter 1979, *5*(1), pp. 21–36.

Oakland, W. H. Proposition 13—Genesis and Consequences. *Fed. Res. Bank San Francisco Econ. Rev.*, Winter 1979, pp. 7–24.

• **Pack, H. and Pack, J. R.** Metropolitan Fragmentation and Local Public Expenditures. *Nat. Tax J.*, December 1978, *31*(4), pp. 349–62.

Sahling, L. Are State and City Corporate Income Taxes Stifling Investment in New York? *Fed. Res. Bank New York Quart. Rev.*, Winter 1978–79, *3*(4), pp. 41–48.

Seley, J. E. A Comparison of Technical and Ethnographic Approaches in the Evaluation and Planning of Professional Fire Services: Tinkering with Success. *Econ. Geogr.*, January 1979, *55*(1), pp. 36–51.

Stefani, G. La finanza dei governi locali e delle aree metropolitane giapponesi. (The Finance of Local Governments and of Metropolitan Areas in Japan. With English summary.) *Giorn. Econ.*, September–October 1978, *37*(9–10), pp. 549–78.

Vasché, J. D. The General Revenue Effects of the California Property Tax Limitation Amendment: A Comment. *Nat. Tax J.*, December 1978, *31*(4), pp. 399–400.

325 Intergovernmental Financial Relationships

• **Mathews, R.** Federal Balance and Economic Stability. *Econ. Rec.*, August 1978, *54*(146), pp. 170–81.

400 International Economics

Lomax, D. F. The New Pluralism. *Nat. Westminster Bank Quart. Rev.*, February 1979, pp. 2–6.

• **Ohlin, B.** 1933 and 1977—Some Expansion Policy Problems in Cases of Unbalanced Domestic and International Economic Relations. *Scand. J. Econ.*, 1978, *80*(4), pp. 360–74.

Whitman, M. v. N. A Year of Travail: The United States and the International Economy. *Foreign Aff.*, 1978, *57*(3), pp. 526–54.

410 International Trade Theory

411 International Trade Theory

Abbott, P. C. The Role of Government Interference in International Commodity Trade Models. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 135–40.

• **Anderson, J. E.** A Theoretical Foundation for the Gravity Equation. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 106–16.

• **Appelbaum, E. and Kohli, U. R.** Canada–United States Trade: Tests for the Small-Open-Economy Hypothesis. *Can. J. Econ.*, February 1979, *12*(1), pp. 1–14.

Askari, H.; Cummings, J. T. and Richter, G. Efficiency of *LDC* Trading Patterns: The Case of Iran. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 191–95.

Bacha, E. L. An Interpretation of Unequal Exchange from Prebisch-Singer to Emmanuel. *J. Devel. Econ.*, December 1978, *5*(4), pp. 319–30.

• **Baldwin, R. E.** Determinants of Trade and Foreign Investment: Further Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 40–48.

• **Collier, P.** The Welfare Effects of Customs Union: An Anatomy. *Econ. J.*, March 1979, *89*(353), pp. 84–95.

• **Das, S. P. and Lee, S.-D.** On the Theory of International Trade with Capital Mobility. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 119–32.

Ethier, W. and Ray, A. Gains from Trade and the Size of a Country, II. *J. Int. Econ.*, February 1979, *9*(1), pp. 127–29.

• **Ethier, W.** Internationally Decreasing Costs and World Trade. *J. Int. Econ.*, February 1979, *9*(1), pp. 1–24.

Fajana, O. Trade and Growth: The Nigerian Experience. *World Devel.*, January 1979, *7*(1), pp. 73–78.

• **Falvey, R. E.** Trade Policies and Industralisation. *Econ. Rec.*, August 1978, *54*(146), pp. 256–60.

Findlay, R. Economic Development and the Theory of International Trade. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 186–90.

• **Fishelson, G. and Hillman, A. L.** Domestic Monopoly and Redundant Tariff Protection. *J. Int. Econ.*, February 1979, *9*(1), pp. 47–55.

• **Hamilton, C.** Appraising Capital Goods Imported to Developing Countries. *Scand. J. Econ.*, 1978, *80*(4), pp. 411–20.

420 Trade Relations; Commercial Policy; International Economic Integration

421 Trade Relations

- • **Appelbaum, E. and Kohli, U. R.** Canada–United States Trade: Tests for the Small-Open-Economy Hypothesis. *Can. J. Econ.*, February 1979, *12*(1), pp. 1–14.
- **Askari, H.; Cummings, J. T. and Richter, G.** Efficiency of *LDC* Trading Patterns: The Case of Iran. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 191–95.
- **Bain, R. A.** An Appraisal of a Buffer Fund Scheme for Beef: Comment. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 135–37.
- • **Baldwin, R. E.** Determinants of Trade and Foreign Investment: Further Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 40–48.
- **Bredahl, M. E.; Meyers, W. H. and Collins, K. J.** The Elasticity of Foreign Demand for U.S. Agricultural Products: The Importance of the Price Transmission Elasticity. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 58–63.
- **Brusca, R.** United States Export Performance. *Fed. Res. Bank New York Quart. Rev.*, Winter 1978–79, *3*(4), pp. 49–56.
- **Ch'iang, L.** Distinguish the Correct Line from the Incorrect Ones: Actively Develop Socialist Foreign Trade. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 83–97.
- **Chung, J. W.** International Transactions and Domestic Cyclical Behavior. *J. Econ. Devel.*, July 1978, *3*(1), pp. 49–64.
- **Corbo, V. and Meller, P.** Trade and Employment: Chile in the 1960's. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 196–201.
- **Dunaway, S. V.** U.S. International Transactions, Third Quarter 1978. *Surv. Curr. Bus.*, December 1978, *58*(12), pp. 35–58.
- **Elsaid, H. H. and Darling, J. R.** Keys to the Successful Penetration of the U.S. Market by Finnish Firms. *Liiketaloudellinen Aikak.*, 1978, *27*(4), pp. 330–41.
- **Fink, G. and Skolka, J.** Die Kapital-und Arbeitsintensität des österreichischen Aussenhandels 1964. (With English summary.) *Empirica*, 1978, (2), pp. 195–213.
- **Fomby, T. B. and Hill, R. C.** Multicollinearity and the Minimax Conditions of the Bock Stein-Like Estimator. *Econometrica*, January 1979, *47*(1), pp. 211–12.
- **Holzman, F. D.** Some Systemic Factors Contributing to the Convertible Currency Shortages of Centrally Planned Economies. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 76–80.
- **Hughes, J. J. and Thirlwall, A. P.** Imports and Labour Market Bottlenecks: A Disaggregated Study for the U.K. *Appl. Econ.*, March 1979, *11*(1), pp. 77–94.
- **Johnson, P. R.; Grennes, T. and Thursby, M.** Trade Models with Differentiated Products. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 120–27.
- **Kojima, K.** Direct Foreign Investment to Developing Countries: The Issue of Over-Presence. *Hitotsubashi J. Econ.*, December 1978, *19*(1–2), pp. 1–15.
- • **Mansfield, E.; Romeo, A. and Wagner, S.** Foreign Trade and U.S. Research and Development. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 49–57.
- **Marwah, K.** A World Model of International Trade: A Supplement on Measuring the Competitive Prices and Regional Weights in (1–9) Markets. *Empirical Econ.*, 1978, *3*(3), pp. 203–07.
- **McKie, J. W.** Oil Imports: Is Any Policy Possible? *Natural Res. J.*, October 1978, *18*(4), pp. 731–45.
- **Mingst, K. A.** Economic Determinants of International Commodity Regulations. *J. World Trade Law*, March–April 1979, *13*(2), pp. 158–69.
- **Morel, C. and Steinherr, A.** An Empirical Study of World Market Influences on Price Formation in West Germany. *Empirical Econ.*, 1978, *3*(3), pp. 183–201.
- **Nguyen, D. T.** The Implications of Price Stabilization for the Short-Term Instability and Long-Term Level of LDCS' Export Earnings. *Quart. J. Econ.*, February 1979, *93*(1), pp. 149–54.
- **Ono, K.** Japanese Capitalism and Foreign Trade, 1945–1970 (II)—Japanese Trade under the Fixed Exchange Rate System. *Kyoto Univ. Econ. Rev.*, April–October 1978, *48*(1–2), pp. 1–21.
- **Parton, K. A.** An Appraisal of a Buffer Fund Scheme for Beef: Reply. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 138–39.
- **Pitfield, D. E.** The Volume of Internal and External Trade: Is Britain a Closed Economy? *Reg. Stud.*, 1978, *12*(6), pp. 665–82.
- • **Prewo, W.** Determinants of the Trade Pattern among OECD Countries from 1958 to 1974. *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 341–58.
- • **Ray, G. F.** Export Prices of Primary Producers. *Nat. Inst. Econ. Rev.*, February 1979, (87), pp. 57–60.
- • **Richard, D.** A Dynamic Model of the World Copper Industry. *Int. Monet. Fund Staff Pap.*, December 1978, *25*(4), pp. 779–833.
- **Richman, B.** Sino-American Economic Relations: Constraints, Opportunities, and Prospects. *Calif. Manage. Rev.*, Winter 1978, *21*(2), pp. 13–28.
- **Rodrigues, V. M. C.** Os efeitos induzidos no saldo

April 1979, *13*(2), pp. 181–86.

Landell-Mills, P. The Southern African Customs Union: A Comment on Mosley's Reappraisal. *World Devel.*, January 1979, *7*(1), pp. 83–85.

Mosley, P. Reply to Robson and Landell-Mills [The Southern African Customs Union: A Reappraisal]. *World Devel.*, January 1979, *7*(1), pp. 87–88.

Scatena, L. Il sistema monetario europeo: funzionamento e prospettive. (The European Monetary System: Functioning and Prospects. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1236–40.

Sedivý, Z. Czechoslovakia's Cooperation with the CMEA Countries in Drawing up the Plans for the Period after 1980. *Czech. Econ. Digest.*, December 1978, (8), pp. 15–26.

• **Tovias, A.** Effets de l'intégration économique dans un pays pratiquant le dumping à l'exportation: Une contribution à la Théorie des Unions douanières. (Effects of the Economic Integration in a Country Practising Export-Dumping: A Contribution to the Theory of Customs-Unions. With English-summary.) *Schweiz. Z. Volkswirtsch. Statist.*, March 1979, *115*(1), pp. 1–14.

Tuccimei, E. Risposte federaliste ai problemi europei. (A Federalist Approach to European Affairs. With English summary.) *Bancaria*, November 1978, *34*(11), pp. 1123–26.

Tugendhat, C. Verso un mercato comune bancario. (Towards a Common Market in Banking. With English summary.) *Bancaria*, October 1978, *34*(10), pp. 965–69.

Zaki, M. Y. Customs Union and the Estimation of the Import Leakage Effect. *J. Econ. Stud.*, November 1978, *5*(2), pp. 91–111.

Zwass, A. Inwieweit transferierbar sind die RGW-Währungen? (How Transferable are Comecon Currencies? With English summary.) *Kredit Kapital*, 1979, *12*(1), pp. 121–38.

430 Balance of Payments; International Finance

• **Black, S. W.** Policy Responses to Major Disturbances of the 1970s and Their Transmission through International Goods and Capital Markets. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 614–41.

• **Hickman, B. G. and Schleicher, S.** The Interdependence of National Economies and the Synchronization of Economic Fluctuations: Evidence from the LINK Project. *Weltwirtsch. Arch.*, 1978, *H4*(4), pp. 642–708.

MacLaury, B. K. OPEC Surpluses and World Financial Stability. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 737–43.

Volcker, P. A. The Political Economy of the Dollar. *Fed. Res. Bank New York Quart. Rev.*, Winter 1978–79, *3*(4), pp. 1–12.

431 Balance of Payments; Mechanisms of Adjustment; Exchange Rates

Ahking, F. W. Mexico: The Open Economy—A Note. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 103–07.

• **Beenstock, M. and Bell, S.** A Quarterly Econometric Model of the Capital Account in the U.K. Balance of Payments. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 33–62.

Beenstock, M. Arbitrage, Speculation, and Official Forward Intervention: The Cases of Sterling and the Canadian Dollar. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 135–39.

Borner, S. Schicksal oder Politikversagen? Kritische Betrachtungen zum Verlauf der schweizerischen Wirtschaftspolitik in den siebziger Jahren. (Fate or Policy Failure? With English summary.) *Schweiz. Z. Volkswirtsch. Statist.*, March 1979, *115*(1), pp. 21–43.

Choi, F. D. S.; Lowe, H. D. and Worthley, R. G. Accountors, Accountants, and Standard No. 8. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 81–87.

Chung, J. W. International Transactions and Domestic Cyclical Behavior. *J. Econ. Devel.*, July 1978, *3*(1), pp. 49–64.

Clarke, H. R. and Kingston, G. H. The Optimal Crawl: A Comment. *J. Int. Econ.*, February 1979, *9*(1), pp. 131–36.

• **Coppock, D. J.** Further Thoughts on the Monetary Approach to Balance of Payments Theory. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 1–23.

Cornell, W. B. Determinants of the Bid-Ask Spread on Forward Foreign Exchange Contracts under Floating Exchange Rates. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 33–41.

Dombrecht, M. The Monetary Approach to the Balance of Payments under Fixed Exchange Rates: A Survey. *Tijdschrift Econ. Manage.*, 1978, *23*(4), pp. 471–91.

Dunaway, S. V. U.S. International Transactions, Third Quarter 1978. *Surv. Curr. Bus.*, December 1978, *58*(12), pp. 35–58.

• **Fair, R. C.** A Model of the Balance of Payments. *J. Int. Econ.*, February 1979, *9*(1), pp. 25–46.

Falchi, G. and Michelangeli, M. Liquidità internazionale, politiche monetarie e inflazione mondiale. (International Liquidity, Monetary Policies and World Inflation. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1192–99.

• **Felmingham, B. S. and Bennett, P. A.** Monetary Policy Reaction in an Interdependent Instrument Setting. *Econ. Rec.*, August 1978, *54*(146),

Amer. Econ. Rev., March 1979, *69*(1), pp. 176–82.

Rogalski, R. J. and Vinso, J. D. Empirical Properties of Foreign Exchange Rates. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 69–79.

Salin, P. I tassi di cambio fluttuanti sono davvero efficaci? (Floating Exchange Rates Are Really Working Well? With English summary.) *Mondo Aperto*, December 1978, *32*(6), pp. 329–42.

Sarlo, C. A. The Role of Money in the Canadian Economy: Fixed v. Flexible Exchange Rates. *Can. J. Econ.*, February 1979, *12*(1), pp. 89–93.

• **Sauernheimer, K.** Ineffizienz der Geldpolitik bei flexiblen Kursen? Bemerkungen zu einem Beitrag von Niehans. (Inefficacy of Monetary Policy under Flexible Exchange Rates? A Note. With English summary.) *Jahr. Nationalökon. Statist.*, December 1978, *193*(6), pp. 518–21.

Saxe, J. Un regard nouveau sur l'analyse des problèmes de balance des paiements des pays en voie de développement. (A New Look on LDCs Balance of Payment Problems. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1131–40.

Scarth, W. M. Real Disturbances, Perfect Capital Mobility, and Exchange Rate Policy. *Can. J. Econ.*, February 1979, *12*(1), pp. 93–100.

• **Schulz, H.** Einige Anmerkungen zum internationalen Zinszusammenhang über den Eurodollarmarkt. (Some Remarks on the Interdependence of International Interest Rates via the Eurodollar Market. With English summary.) *Jahr. Nationalökon. Statist.*, October 1978, *193*(5), pp. 406–26.

• **Seton, F.** Devaluation Packages in Small Countries. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 100–112.

de Silva, K. E. A. Money Supply, Inflation and the Balance of Payments in Sri Lanka (1959–74): Reply. *J. Devel. Stud.*, October 1978, *15*(1), pp. 111–14.

Stanley, M. T. and Block, S. B. Response by United States Financial Managers to Financial Accounting Standard No. 8. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 89–99.

Triffin, R. Quelques observations sur la structure géographique des déficits internationaux et de leur financement. (Few Remarks on Geographical Structures of International Deficits and Their Financing. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1114–23.

• **Tullio, G.** Monetary Equilibrium and Balance-of-Payments Adjustment: An Empirical Test of the U.S. Balance of Payments, 1951-73. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 68–79.

Wallace, M. S. The Monetary Approach to Flexible Exchange Rates in the Short Run: An Empirical Test. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 98–102.

• **Witte, W. E.** Dynamic Adjustment in an Open Economy with Flexible Exchange Rates. *Southern Econ. J.*, April 1979, *45*(4), pp. 1072–90.

Yu, E. S. H. International Capital Movement, Sterilization and Internal and External Balances. *Rivista Int. Sci. Econ. Com.*, January 1979, *26*(1), pp. 51–63.

432 International Monetary Arrangements

Bareau, P. From the Gold Standard to the European Monetary System. *Irish Banking Rev.*, December 1978, pp. 15–26.

Carrière, J. Le cofinancement. (Cofinancing. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1043–54.

Cotta, A. Les problèmes financiers de l'économie mondiale. (The Financial Problems of World Economy. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1175–1203.

Dealtry, M. G. Die monetäre Rolle des Goldes. (The Monetary Role of Gold. With English summary.) *Kredit Kapital*, 1979, *12*(1), pp. 83–100.

Deveaud, J.-J. La société financière internationale: Son rôle parmi les institutions financières de développement. (IFC and the Other Development Oriented Financial Institutions. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1141–74.

Dufey, G. and Giddy, I. H. Measuring the Eurocurrency Market. *J. Bank Res.*, Autumn 1978, *9*(3), pp. 151–60.

Guillaumont, P. Substitution de contraintes dans le financement international du développement. (Trade-Off between Constraints of Development International Financing. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1057–90.

Habermeier, W. O. The SDR as an International Unit of Account. *Finance Develop.*, March 1979, *16*(1), pp. 11–13.

Hauge, G. Il mercato internazionale dei capitali ed il sistema monetario internazionale. (The International Capital Market and the International Monetary System. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1161–71.

Hoffmeyer, E. Il mercato internazionale dei capitali ed il sistema monetario internazionale. (The International Capital Market and the International Monetary System. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1172–79.

Krasavina, L. A Discussion of the Role of Gold

440 International Investment and Foreign Aid

441 International Investment and Capital Markets

442 International Business

Appl. Econ., March 1979, *11*(1), pp. 35–42.

Gray, S. J. Managerial Forecasts and European Multinational Company Reporting. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 21–32.

Hauge, G. Il mercato internazionale dei capitali ed il sistema monetario internazionale. (The International Capital Market and the International Monetary System. With English summary.) *Bancaria*, December 1978, *34*(12), pp. 1161–71.

• **Howenstine, N. G.** Gross Product of U.S. Affiliates of Foreign Companies. *Surv. Curr. Bus.*, January 1979, *59*(1), pp. 28–36.

Juocys, A. Compensation of Expatriates Transferred to Brazil. *Bull. Int. Fiscal Doc.*, 1979, *33*(1), pp. 3–7.

Kallio, T. Kansainvälisestä pankkitoiminnasta ja pankkivalvonnasta. (International Banking Operations and Supervision of Banks. With English summary.) *Liiketaloudellinen Aikak.*, 1978, *27*(4), pp. 379–92.

Kapoor, M. C. and Saxena, R. Taming the Multinationals in India. *J. World Trade Law*, March–April 1979, *13*(2), pp. 170–78.

• **Kardasz, S. W.** The Capital-Stock Decision of Subsidiaries. *Econ. Inquiry*, January 1979, *17*(1), pp. 114–24.

Kojima, K. Direct Foreign Investment to Developing Countries: The Issue of Over-Presence. *Hitotsubashi J. Econ.*, December 1978, *19*(1–2), pp. 1–15.

Lall, S. Transfer Pricing and Developing Countries: Some Problems of Investigation. *World Devel.*, January 1979, *7*(1), pp. 59–71.

Logue, D. E. and Rogalski, R. J. Offshore Alphas: Should Diversification Begin at Home? *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 5–10.

Lucisano, S. and Alberti, A. Gli investimenti in Medio Oriente: alcuni modelli del ciclo di vita. (Models for the Life Cycle of an Investment in Middle Eastern Countries. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 517–20.

Marini, L. La nuova disciplina delle banche estere negli Stati Uniti. (The New Regulations Concerning Foreign Banks in the United States. With English summary.) *Bancaria*, November 1978, *34*(11), pp. 1086–95.

Newfarmer, R. S. TNC Takeovers in Brazil: The Uneven Distribution of Benefits in the Market for Firms. *World Devel.*, January 1979, *7*(1), pp. 25–43.

Pras, B. Risque du dirigeant et diversification multinationale. (Managerial Risk and Multinational Diversification. With English summary.) *Rev. Econ. Ind.*, 4th Semester 1978, (6), pp. 87–119.

Quantius, F. W. Review of the Glass-Steagall Act's Impact on Multinational Banking. *Ohio State U. Bull. Bus. Res.*, September 1978, *53*(9), pp. 1–3, 8.

Scriven, J. G. Yugoslavia's New Foreign Investment Law. *J. World Trade Law*, March–April 1979, *13*(2), pp. 95–107.

Shapiro, A. C. Payments Netting in International Cash Management. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 51–58.

Steade, R. D. Multinational Corporations and the Changing World Economic Order. *Calif. Manage. Rev.*, Winter 1978, *21*(2), pp. 5–12.

• **Whichard, O. G.** Employment and Employee Compensation of U.S. Affiliates of Foreign Companies, 1974. *Surv. Curr. Bus.*, December 1978, *58*(12), pp. 23–34, 58.

443 International Aid

Bauchet, P. and Paille, A. Le financement des transports maritimes dans les pays en voie de développement. (The Financing of Shipping in the LDC. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1091–1113.

Carrière, J. Le cofinancement. (Cofinancing. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1043–54.

Deveaud, J.-J. La société financière internationale: Son rôle parmi les institutions financières de développement. (IFC and the Other Development Oriented Financial Institutions. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1141–74.

Elia, A. La banca in una società nuova Tema della XXXI International Banking Summer School. (Banking in a New Society-Theme of the XXXI International Banking Summer School. With English summary.) *Bancaria*, October 1978, *34*(10), pp. 991–99.

Grant, J. P. Perspectives on Development Aid: World War II to Today and Beyond. *Ann. Amer. Acad. Polit. Soc. Sci.*, March 1979, *442*, pp. 1–12.

Guillaumont, P. Substitution de contraintes dans le financement international du développement. (Trade-Off between Constraints of Development International Financing. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 1057–90.

Parly, J.-M. A propos de la privatisation du financement international du développement. (Financing the LDC's: The Growing Role of Private Institution. With English summary.) *Revue Écon.*, November 1978, *29*(6), pp. 987–1002.

Roper, B. W. The Limits of Public Support. *Ann. Amer. Acad. Polit. Soc. Sci.*, March 1979, *442*, pp. 40–45.

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

511 Organization and Decision Theory

512 Managerial Economics

513 Business and Public Administration

Mich. Law Rev., March 1978, *76*(4), pp. 581–610.

Suk, O. C. and Hioki, K. The Models of Comparative Management. (In Japanese. With English summary.) *Osaka Econ. Pap.*, December 1978, *28*(2–3), pp. 61–74.

Volard, S. V. Project 3P—An Experiment in Industrial Democracy in a Small Firm. *Australian J. Manage.*, April 1978, *3*(1), pp. 91–111.

514 Goals and Objectives of Firms

Aubareda, J. Steady-State Growth of the Long-Run Sales-Maximizing Firm. *Quart. J. Econ.*, February 1979, *93*(1), pp. 131–38.

Boyes, W. J. and Schlagenhauf, D. E. Managerial Incentives and the Specification of Functional Forms. *Southern Econ. J.*, April 1979, *45*(4), pp. 1225–32.

• **Dunning, J. H. and Stilwell, F. J. B.** Theories of Business Behaviour and the Distribution of Surplus Profits. *Kyklos*, 1978, *31*(4), pp. 601–23.

Fethke, G. C. and Currie, K. A. Growth of Firms, Capital Market Uncertainty and Managerial Tenure. *J. Ind. Econ.*, December 1978, *27*(2), pp. 109–21.

• **Grossman, S. J. and Hart, O. D.** A Theory of Competitive Equilibrium in Stock Market Economies. *Econometrica*, March 1979, *47*(2), pp. 293–329.

• **Kania, J. J. and McKean, J. R.** Decision-Making in the Extensive Firm. *Nebr. J. Econ. Bus.*, Winter 1979, *18*(1), pp. 25–42.

Umbeck, J. Welfare Effects of Sales Maximization: A Methodological Critique. *Econ. Inquiry*, January 1979, *17*(1), pp. 151–52.

520 BUSINESS FINANCE AND INVESTMENT

Beranek, W. Some New Capital Budgeting Theorems. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 809–23.

Bernhard, R. H. Some New Capital Budgeting Theorems: Comment. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 825–29.

Bhatia, K. B. Corporate Taxation, Retained Earnings, and Capital Formation. *J. Public Econ.*, February 1979, *11*(1), pp. 123–34.

Brick, J. R. and Thompson, H. E. The Economic Life of an Investment and the Appropriate Discount Rate. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 831–46.

Clarke, R. G. The Impact of a Fuel Adjustment Clause on the Regulated Firm's Value and Cost of Capital. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 745–57.

Freeland, J. R. and Rosenblatt, M. J. An Analysis of Linear Programming Formulations for the Capital Rationing Problem. *Eng. Econ.*, Fall 1978, *24*(1), pp. 49–61.

Haley, C. W. and Schall, L. D. Problems with the Concept of the Cost of Capital. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 847–70.

Hexter, J. L. Risk Reduction and Conglomerate Mergers. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 90–97.

• **Muzondo, T. R.** The Corporation Income Tax and Depreciation Policy in the Short Run. *Can. J. Econ.*, February 1979, *12*(1), pp. 15–28.

Park, C. S. and Thuesen, G. J. Combining the Concepts of Uncertainty Resolution and Project Balance for Capital Allocation Decisions. *Eng. Econ.*, Winter 1978, *24*(2), pp. 109–31.

Perrin, J. Les performances des entreprises industrielles américaines dans la crise économique. (The Performances of US Business Enterprises in the Economic Crisis. With English summary.) *Rev. Econ. Ind.*, 3rd Semester 1978, (5), pp. 160–81.

• **Shinkai, Y.** An Analysis of the Bank of Japan's Business Survey Data. *Econ. Stud. Quart.*, December 1978, *29*(3), pp. 231–41.

Walton, J. Current Cost Accounting: Implications for the Definition and Measurement of Corporate Income. *Rev. Income Wealth*, December 1979, *24*(4), pp. 357–90.

• **Ylä-Liedenpohja, J.** Taxes, Dividends and Capital Gains in the Adjustment Cost Model of the Firm. *Scand. J. Econ.*, 1978, *80*(4), pp. 399–410.

521 Business Finance

Allen, C. L.; Martin, J. D. and Anderson, P. F. Debt Capacity and the Lease-Purchase Problem: A Sensitivity Analysis. *Eng. Econ.*, Winter 1978, *24*(2), pp. 87–108.

• **Ball, R.** Anomalies in Relationships between Securities' Yields and Yield-Surrogates. *J. Finan. Econ.*, June/September 1978, *6*(2/3), pp. 103–26.

Ball, R. and Watts, R. Some Additional Evidence on Survival Biases. *J. Finance*, March 1979, *34*(1), pp. 197–206.

• **Baron, D. P.** On the Relationship between Complete and Incomplete Financial Market Models. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 105–17.

Boadway, R. W. and Bruce, N. Depreciation and Interest Deductions and the Effect of the Corporation Income Tax on Investment. *J. Public Econ.*, February 1979, *11*(1), pp. 93–105.

Bolten, S. E.; Kretlow, W. J. and Oakes, J. H. The Capital Asset Pricing Model under Certainty. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 15–27.

Bradley, J. W. and Korn, D. H. Bargains in Valuation Disparities: Corporate Acquirer versus Passive Investor. *Sloan Manage. Rev.*, Winter

Wright, F. K. Minimizing the Costs of Liquidity. *Australian J. Manage.*, October 1978, *3*(2), pp. 203–24.

522 **Business Investment**

• **Aivazian, V. A. and Callen, J. L.** Investment, Market Structure, and the Cost of Capital. *J. Finance*, March 1979, *34*(1), pp. 85–92.

• **Baron, D. P.** Investment Policy, Optimality, and the Mean-Variance Model: Review Article. *J. Finance*, March 1979, *34*(1), pp. 207–32.

Bernhard, R. H. A Simpler Internal Rate of Return Uniqueness Condition Which Dominates That of de Faro and Soares. *Eng. Econ.*, Winter 1978, *24*(2), pp. 71–74.

Bingham, T. R. G. Economic Growth and the Efficiency of Investment: A Cross-country Comparison. *Kansant. Aikak.*, 1978, *74*(1), pp. 68–73.

Blanckensee, R. E. Overseas Investment in Australian Oil and Gas. *Bull. Int. Fiscal Doc.*, 1978, *32*(12), pp. 526–32.

Boadway, R. W. and Bruce, N. Depreciation and Interest Deductions and the Effect of the Corporation Income Tax on Investment. *J. Public Econ.*, February 1979, *11*(1), pp. 93–105.

Brooks, L. and Buckmaster, D. Price-Change Income Models and Selected Firm Performance Measures. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 28–43.

• **Hagemann, H. and Pfister, J.** Zur Relevanz des Truncation-Theorems in partialanalytischer und totalanalytischer Sicht. (On the Relevance of the Truncation Theorem within a Partial and a General Analytical Context. With English summary.) *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 359–79.

Kay, J. A. Accounting Rate of Profit and Internal Rate of Return: A Reply. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 469–70.

Kelso, P. R. New Taxes for the Capital Shortage: A Critical Review. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 67–81.

Kim, E. H.; Lewellen, W. G. and McConnell, J. J. Sale-and-Leaseback Agreements and Enterprise Valuation. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 871–83.

Kim, S. H. Making the Long-Term Investment Decision. *Manage. Account.*, March 1979, *60*(9), pp. 41–49.

Louderback, J. G. and Manners, G. E., Jr. Evaluating Risky Investment Projects. *Manage. Account.*, February 1979, *60*(8), pp. 21–23, 28.

Lucisano, S. and Alberti, A. Gli investimenti in Medio Oriente: alcuni modelli del ciclo di vita. (Models for the Life Cycle of an Investment in Middle Eastern Countries. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 517–20.

Lucken, J. A. and Stuhr, D. P. Decision Trees and Risky Projects. *Eng. Econ.*, Winter 1978, *24*(2), pp. 75–86.

Lusch, R. F. and Bentz, W. F. A Variance Approach to Analyzing Changes in Return on Investment. *Manage. Account.*, February 1979, *60*(8), pp. 29–33.

May, J. D. Investment Incentives as Part of an Industrial Strategy. *Can. Public Policy*, Winter 1979, *5*(1), pp. 70–79.

Oso, J. B. The Proper Role of the Tax-Adjusted Cost of Capital in Present Value Studies. *Eng. Econ.*, Fall 1978, *24*(1), pp. 1–12.

Ray, A. and van der Tak, H. G. A New Approach to the Economic Analysis of Projects. *Finance Develop.*, March 1979, *16*(1), pp. 28–32.

Sahling, L. Are State and City Corporate Income Taxes Stifling Investment in New York? *Fed. Res. Bank New York Quart. Rev.*, Winter 1978–79, *3*(4), pp. 41–48.

Sangeladji, M. A. True Rate of Return for Evaluating Capital Investments. *Manage. Account.*, February 1979, *60*(8), pp. 24–27.

Schall, L. D. and Kerr, H. S. The Validity of Existing Capitalization Methods. *Eng. Econ.*, Fall 1978, *24*(1), pp. 29–35.

Stafford, L. W. T. and Vaughan, G. D. A Managerial Model of the Investment Decision. *Appl. Econ.*, March 1979, *11*(1), pp. 1–20.

Willis, R. E. Estimating Facility Size for Variable or Uncertain Activity Levels. *Eng. Econ.*, Summer 1978, *23*(4), pp. 223–30.

Woodward, J. T. Plant and Equipment Expenditures: Year 1979. *Surv. Curr. Bus.*, January 1979, *59*(1), pp. 22–24.

Woodward, J. T. Plant and Equipment Expenditures, Quarters of 1978 and First and Second Quarters of 1979. *Surv. Curr. Bus.*, December 1978, *58*(12), pp. 14–18.

• **Wright, F. K.** Accounting Rate of Profit and Internal Rate of Return. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 464–68.

530 Marketing

531 **Marketing and Advertising**

• **Anderson, E. E.** An Analysis of Retail Display Space: Theory and Methods. *J. Bus.*, January 1979, *52*(1), pp. 103–18.

Carli, C. La programmazione dell'efficacia della pubblicità: Il modello A.P.E. (Advertising Effectiveness Planning: The A.P.E. Model. With English summary.) *Rivista Int. Sci. Econ. Com.*, December 1978, *25*(12), pp. 1054–85.

De Floriani, W. Su un indice del potenziale teorico di mercato dei settimanali. (With English

540 ACCOUNTING

541 Accounting

1974. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 138–44.

Rudolph, P. M. The Impact of Price, Expectations and Business Conditions on the Balance Sheet Structure of Firms. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 61–73.

Sarens, A. Aanvullingen op het gestabiliseerd actueel boekhouden in verband met het transactieresultaat bij FIFO-waardering van de goederen. (Supplement to Stabilized Actual Accounting Concerning Transaction Results by FIFO Valuation of Stocks. With English summary.) *Econ. Soc. Tijdschr.*, February 1979, *33*(1), pp. 47–63.

• **Scheiner, J. H. and Morse, W. J.** The Impact of SEC Replacement Cost Reporting Requirements: An Analysis. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 141–52.

• **Schoenfeld, H.-M. W.** Inflation Accounting—Development of Theory and Practice in Continental Europe. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 57–73.

Smith, E. D. The Effect of the Separation of Ownership from Control on Accounting Policy Decisions: A Reply. *Accounting Rev.*, April 1979, *54*(2), pp. 417–20.

Stallman, J. C. A Simplified Graphical Display of Production and Sales Volume Effects on Absorption Costing Income. *Accounting Rev.*, April 1979, *54*(2), pp. 390–95.

Stanley, M. T. and Block, S. B. Response by United States Financial Managers to Financial Accounting Standard No. 8. *J. Int. Bus. Stud.*, Fall 1978, *9*(2), pp. 89–99.

Stickney, C. P. Current Issues in the Measurement and Disclosure of Corporate Income Taxes. *Accounting Rev.*, April 1979, *54*(2), pp. 421–33.

• **Vasarhelyi, M. A. and Pearson, E. F.** Studies in Inflation Accounting: A Taxonomization Approach. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 9–27.

Walton, J. Current Cost Accounting: Implications for the Definition and Measurement of Corporate Income. *Rev. Income Wealth*, December 1979, *24*(4), pp. 357–90.

Watts, R. L. and Zimmerman, J. L. The Demand for and Supply of Accounting Theories: The Market for Excuses. *Accounting Rev.*, April 1979, *54*(2), pp. 273–305.

Wilson, D. A. On the Pedagogy of Financial Accounting. *Accounting Rev.*, April 1979, *54*(2), pp. 396–401.

• **Wright, F. K.** Accounting Rate of Profit and Internal Rate of Return. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 464–68.

Zeisel, G. and Estes, R. Accounting and Public Service. *Accounting Rev.*, April 1979, *54*(2), pp. 402–08.

600 Industrial Organization; Technological Change; Industry Studies

610 Industrial Organization and Public Policy

611 Industrial Organization and Market Structure

Brock, G. W. A Study of Prices and Market Shares in the Computer Mainframe Industry: Comment. *J. Bus.*, January 1979, *52*(1), pp. 119–24.

Carré, D. Performances internes et intensité des échanges internationaux. (Internal Performances and Intensity of International Exchanges. With English summary.) *Rev. Econ. Ind.*, 3rd Semester 1978, (5), pp. 133–50.

• **Caves, R. E.** Organization, Scale, and Performance of the Grain Trade. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 107–23.

• **Domberger, S.** Price Adjustment and Market Structure. *Econ. J.*, March 1979, *89*(353), pp. 96–108.

Dupuy, Y. L'étude des formes d'insertion dans les groupes d'entreprises: quelques enseignements méthodologiques d'une enquête exploratorie. (The Forms of Integration of Firms within a Group: Some Methodological Considerations. With English summary.) *Rev. Econ. Ind.*, 4th Semester 1978, (6), pp. 33–66.

Eldor, D.; Shami, C. H. and Sudit, E. F. Production-Cost Elasticities in Product and Factor Markets: The Case of Telecommunications. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 84–89.

Esposito, F. F. and Esposito, L. Excess Capacity and Market Structure: Another Look at the Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 159–60.

Friedman, P.; Berg, S. V. and Duncan, J. External vs. Internal Knowledge Acquisition: Joint Venture Activity and R&D Intensity. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 103–10.

Globerman, S. A Note on Foreign Ownership and Market Structure in the United Kingdom. *Appl. Econ.*, March 1979, *11*(1), pp. 35–42.

Hall, G. C. The Effects of Mergers on the Product-Mix Offered by the Brewing Industry. *Appl. Econ.*, March 1979, *11*(1), pp. 21–34.

Hexter, J. L. Risk Reduction and Conglomerate Mergers. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 90–97.

Humbert, M. Concurrence et hiérarchie interindustrielle. (Competition and Interindustrial Hierarchy. With English summary.) *Rev. Econ.*

Ind., 3rd Semester 1978, (5), pp. 95–123.

Koenig, T.; Gogel, R. and Sonquist, J. Models of the Significance of Interlocking Corporate Directorates. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 173–86.

• **Kwoka, J. E., Jr.** The Effect of Market Share Distribution on Industry Performance. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 101–09.

• **Levin, R. C.** Technical Change, Barriers to Entry, and Market Structure. *Economica*, November 1978, *45*(180), pp. 347–61.

Mader, F. Un exemple de restructuration industrielle: l'oligopole du ciment en France entre 1962 et 1972. (Case Study of Industrial Manufacturing: The French Cement Oligopole from 1962 to 1972. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 96–116.

Mann, H. M.; Meehan, J. W., Jr. and Ramsay, G. A. Market Structure and Excess Capacity: A Look at Theory and Some Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 156–59.

Maurel, P. Stratégie des firmes vis-à-vis de l'entrée: le cas de l'industrie chimique. (Strategy of Firms towards Entry. The Case of the Chemical Industry. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 30–62.

Navatte, P. L'étude des effets micro-économiques produits par les opérations de fusion absorption (une analyse appliquée à l'industrie française et au cas du secteur du ciment). (The Micro Economic Effects of Corporate Mergers. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 117–43.

• **Oster, G.** A Factor Analytic Test of the Theory of the Dual Economy. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 33–39.

• **Page, J. M., Jr.** Economies of Scale, Income Distribution, and Small-Enterprise Promotion in Ghana's Timber Industry. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 159–82.

Perrin, J. Les performances des entreprises industrielles américaines dans la crise économique. (The Performances of US Business Enterprises in the Economic Crisis. With English summary.) *Rev. Econ. Ind.*, 3rd Semester 1978, (5), pp. 160–81.

Pickering, J. F. The Abandonment of Major Mergers in the U.K., 1965–75. *J. Ind. Econ.*, December 1978, *27*(2), pp. 123–31.

Pindyck, R. S. The Cartelization of World Commodity Markets. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 154–58.

Ratchford, B. T. and Ford, G. T. A Study of Prices and Market Shares in the Computer Mainframe Industry: Reply. *J. Bus.*, January 1979, *52*(1), pp. 125–34.

Round, D. K. Economies of Firm Size: A Note on Their Calculation and Relationship with Concentration. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 356–61.

Salop, S. C. Strategic Entry Deterrence. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 335–38.

Simonin, J.-P. Existe-t-il un indice optimal de mobilité des structures industrielles? (Is There an Optimum Mobility Index of Industrial Structures? With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 63–95.

Willig, R. D. Multiproduct Technology and Market Structure. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 346–51.

612 Public Policy Towards Monopoly and Competition

Backman, J. New Role for Economists—The United States Lines Case. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 797–823.

Beigie, C. E. The Royal Commission on Corporate Cencentration: Comment. *Can. Public Policy*, Winter 1979, *5*(1), pp. 132–35.

Campney, A. F. The Royal Commission on Corporate Concentration: Comment. *Can. Public Policy*, Winter 1979, *5*(1), pp. 127–32.

Clement, W. The Royal Commission on Corporate Concentration: Comment. *Can. Public Policy*, Winter 1979, *5*(1), pp. 120–26.

Jenny, F. and Weber, A.-P. La politique française de concurrence: nouvelles données et nouveaux problèmes. (Competition Policy in France: New Rules, New Issues. With English summary.) *Rev. Econ. Ind.*, 1st Semester 1978, (3), pp. 31–55.

Jones, J. C. H. and Davies, D. K. Not Even Semitough: Professional Sport and Canadian Antitrust. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 713–42.

Kahn, A. E. Applications of Economics to an Imperfect World. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 1–13.

Meehan, J. W., Jr. Rules vs. Discretion: A Reevaluation of the Merger Guidelines for Horizontal Mergers. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 769–95.

Weisberg, R. C. Foreign Nondisclosure Laws and Domestic Discovery Orders in Antitrust Litigation. *Yale Law J.*, January 1979, *88*(3), pp. 612–28.

613 Public Utilities and Government Regulation of Other Industries in the Private Sector

Aigner, D. J. Bayesian Analysis of Optimal Sample Size and a Best Decision Rule for Experiments in Direct Load Control. *J. Econometrics*, January 1979, *9*(1/2), pp. 209–21.

Atkinson, S. E. Responsiveness to Time-of-Day

Electricity Pricing: First Empirical Results. *J. Econometrics*, January 1979, *9*(1/2), pp. 79–95.

Baca, J. J. Deadline for Achieving BPT Upheld. *Natural Res. J.*, January 1979, *19*(1), pp. 197–99.

Blair, R. D. ERISA and the Prudent Man Rule: Avoiding Perverse Results. *Sloan Manage. Rev.*, Winter 1979, *20*(2), pp. 15–25.

Bossert, R. W. Devices for Electric Utility Rate Design under Transition Towards Time of Use Marginal Cost Pricing. *Eng. Econ.*, Summer 1978, *23*(4), pp. 249–63.

• **Braeutigam, R. R.** Optimal Pricing with Intermodal Competition. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 38–49.

Breyer, S. Taxes as a Substitute for Regulation. *Growth Change*, January 1979, *10*(1), pp. 39–52.

Chapman, R. and Waverman, L. Risk Aversion, Uncertain Demand and the Effects of a Regulatory Constraint. *J. Public Econ.*, February 1979, *11*(1), pp. 107–21.

Clarke, R. G. The Impact of a Fuel Adjustment Clause on the Regulated Firm's Value and Cost of Capital. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 745–57.

Colander, D. On Cost and Benefit Related Fees. *Nat. Tax J.*, December 1978, *31*(4), pp. 407–09.

Dansby, R. E. Multi-Period Pricing with Stochastic Demand. *J. Econometrics*, January 1979, *9*(1/2), pp. 223–37.

Drapkin, D. B. Taxes as a Substitute for Regulation: Comment. *Growth Change*, January 1979, *10*(1), pp. 53–54.

Findlay, C. C. The Cost of Australian Regulation of International Air Travel. *Australian J. Manage.*, October 1978, *3*(2), pp. 163–74.

Folsom, J. M. Competition and Regulation in the Food Industry: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 186–87.

von Furstenberg, G. M. Taxation of Crude Oil, Gasoline, and Related Fuels and Commodities: Comment. *Growth Change*, January 1979, *10*(1), pp. 87–89.

Gabin, V. California A. G. Opines: California's Nuclear Legislation Unconstitutional. *Natural Res. J.*, January 1979, *19*(1), pp. 207–11.

Granger, C. W. J., et al. Residential Load Curves and Time-of-Day Pricing: An Econometric Analysis. *J. Econometrics*, January 1979, *9*(1/2), pp. 13–32.

Greer, D. N. Limitation of Compensation for Victims of Nuclear Accidents Upheld. *Natural Res. J.*, January 1979, *19*(1), pp. 201–05.

Hamilton, M. S. Power Plant Siting: A Literature Review. *Natural Res. J.*, January 1979, *19*(1), pp. 75–95.

Hendricks, W.; Koenker, R. and Poirer, D. J. Residential Demand for Electricity: An Econometric Approach. *J. Econometrics*, January 1979, *9*(1/2), pp. 33–57.

Kahn, A. E. Applications of Economics to an Imperfect World. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 1–13.

Koenker, R. Optimal Peak Load Pricing with Time-Additive Consumer Preferences. *J. Econometrics*, January 1979, *9*(1/2), pp. 175–92.

Lawrence, A. and Braithwait, S. The Residential Demand for Electricity with Time-of-Day Pricing. *J. Econometrics*, January 1979, *9*(1/2), pp. 59–77.

MacDowell, F. J. President Carter Announces Water Policy Initiatives. *Natural Res. J.*, January 1979, *19*(1), pp. 191–96.

Machado, E. L. and Carleton, W. T. Financial Planning in a Regulated Environment. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 759–77.

Maillet, P. Réflexions économiques sur l'idée d'un moratorie nucléaire. (The Idea of a Nuclear Moratorium Considered from an Economic Standpoint. With English summary.) *Rev. Econ. Ind.*, 4th Semester 1978, (6), pp. 67–86.

Marion, B. W. Government Regulation of Competition in the Food Industry. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 178–85.

• **Meyer, R. A.** Regulated Monopoly under Uncertainty. *Southern Econ. J.*, April 1979, *45*(4), pp. 1121–29.

Myers, L. H. Competition and Regulation in the Food Industry: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 188–89.

Ortego, A. J., Jr. Competition and Regulation in the Food Industry: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 190–91.

Panzar, J. C. and Willig, R. D. Theoretical Determinants of the Industrial Demand for Electricity by Time of Day. *J. Econometrics*, January 1979, *9*(1/2), pp. 193–207.

Parker, G. G. C. and Cooperman, D. Competitive Bidding in the Underwriting of Public Utility Securities. *J. Financial Quant. Anal.*, December 1978, *13*(5), pp. 885–902.

Parzen, E. and Pagano, M. An Approach to Modeling Seasonally Stationary Time Series. *J. Econometrics*, January 1979, *9*(1/2), pp. 137–53.

Paul, A. B. Some Basic Problems of Research into Competition in Agricultural Markets. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 170–77.

Peles, Y. C. and Stein, J. L. On Regulation and Uncertainty: Reply. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 195–99.

Porter, R. C. A Social Benefit-Cost Analysis of

614 Public Enterprises

615 Economics of Transportation

Panzar, J. C. Equilibrium and Welfare in Unregulated Airline Markets. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 92–95.

Pitfield, D. E. The Volume of Internal and External Trade: Is Britain a Closed Economy? *Reg. Stud.*, 1978, *12*(6), pp. 665–82.

Porter, M. D. Freight Rates May Discriminate against Recycled Materials. *Natural Res. J.*, January 1979, *19*(1), pp. 229–33.

Rieber, M. Coal Transportation Models: The Use, Misuse, and Abuse of Data. *Growth Change*, January 1979, *10*(1), pp. 130–36.

620 Economics of Technological Change

621 Technological Change; Innovation; Research and Development

• **Alves, R. L. J.** Scientific Transfer—Untersuchung zur Forschungsabhängigkeit der Neuproduktplanung. (Scientific Transfer—The Impact of R&D on New Product Decisions. With English summary.) *Z. ges. Staatswiss.*, December 1978, *134*(4), pp. 715–39.

• **Batavia, B.** The Estimation of Biased Technical Efficiency in the U.S. Textile Industry, 1949–1974. *Southern Econ. J.*, April 1979, *45*(4), pp. 1091–1103.

Blumenthal, T. A Note on the Relationship between Domestic Research and Development and Imports of Technology. *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 303–06.

Brown, S. R. The Transfer of Technology to China in the Nineteenth Century: The Role of Direct Foreign Investment. *J. Econ. Hist.*, March 1979, *39*(1), pp. 181–97.

Cremer, J. and Sirbu, M. A., Jr. Une analyse économétrique de l'effort de recherche et développement de l'industrie française. (A Statistical Analysis of Research and Development in French Industry. With English summary.) *Revue Écon.*, September 1978, *29*(5), pp. 940–57.

Desai, P. The Productivity of Foreign Resource Inflow to the Soviet Economy. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 70–75.

• **Dymmel, M. D.** Technology in Telecommunications: Its Effect on Labor and Skills. *Mon. Lab. Rev.*, January 1978, *102*(1), pp. 13–19.

Fang I. Abstract of a Report on the State of Science and Education Delivered by Comrade Fang I at the Seventh Enlarged Meeting of the Standing Committee of the Fourth National Committee of the Chinese People's Political Consultative Conference. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 124–38.

Friedman, P.; Berg, S. V. and Duncan, J. External vs. Internal Knowledge Acquisition: Joint Venture Activity and R&D Intensity. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 103–10.

Globerman, S. A Note on Foreign Ownership and Market Structure in the United Kingdom. *Appl. Econ.*, March 1979, *11*(1), pp. 35–42.

Grabowski, R. Obstacles to Technological Research in Less Developed Nations. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 83–95.

Hsueh-sen, C. Modern Science and Technology. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 110–23.

• **Hulten, C. R.** On the "Importance" of Productivity Change. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 126–36.

Joelson, M. R. United States Law and the Proposed Code of Conduct on the Transfer of Technology. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 835–91.

Knutson, M. and Tweeten, L. G. Toward an Optimal Rate of Growth in Agricultural Production Research and Extension. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 70–76.

Kudrna, K. System Concept of Scientific-Technical Development of Agriculture. *Czech. Econ. Digest.*, November 1978, (7), pp. 11–18.

• **Levin, R. C.** Technical Change, Barriers to Entry, and Market Structure. *Economica*, November 1978, *45*(180), pp. 347–61.

• **Mansfield, E.; Romeo, A. and Wagner, S.** Foreign Trade and U.S. Research and Development. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 49–57.

• **Reid, G. C.** An Analysis of the Firm, Market Structure and Technical Progress. *Scot. J. Polit. Econ.*, February 1979, *26*(1), pp. 15–32.

Roslin, B. Tuotekehitys epävarmuuden aikaan. (Product Development in Conditions of Uncertainty. With English summary.) *Kansant. Aikak.*, 1978, *74*(2), pp. 129–41.

Vilenskii, M. Planning the Effect of Scientific-Technical Progress. *Prob. Econ.*, November 1978, *21*(7), pp. 3–19.

Waters, A. R. Working Capital and Technological Change. *J. Econ. Devel.*, July 1978, *3*(1), pp. 65–82.

630 Industry Studies

Carlson, C. E. Kannattavuuskehitys ja teollinen kasvustrategiamme. (The Profitability of Finnish Industry and Its Growth Strategy. With English summary.) *Kansant. Aikak.*, 1978, *74*(3), pp. 263–70.

Ch'ung, P. Fully Utilize and Actively Develop Shanghai's Industry and Make Even Greater Contributions toward the Realization of the Four Modernizations. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 153–68.

631 Industry Studies: Manufacturing

- **Globerman, S.** Foreign Direct Investment and 'Spillover' Efficiency Benefits in Canadian Manufacturing Industries. *Can. J. Econ.*, February 1979, *12*(1), pp. 42–56.

Hall, G. C. The Effects of Mergers on the Product-Mix Offered by the Brewing Industry. *Appl. Econ.*, March 1979, *11*(1), pp. 21–34.

Hughes, J. J. and Thirlwall, A. P. Imports and Labour Market Bottlenecks: A Disaggregated Study for the U.K. *Appl. Econ.*, March 1979, *11*(1), pp. 77–94.

Kavonius, M. Metalliteollisuuden kannattavuusrakenne. (The Profitability of the Metal Industry. With English summary.) *Kansant. Aikak.*, 1978, *74*(3), pp. 256–62.

Mader, F. Un exemple de restructuration industrielle: l'oligopole du ciment en France entre 1962 et 1972. (Case Study of Industrial Manufacturing: The French Cement Oligopole from 1962 to 1972. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 96–116.

Marion, B. W. Government Regulation of Competition in the Food Industry. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 178–85.

Maurel, P. Stratégie des firmes vis-à-vis de l'entrée: le cas de l'industrie chimique. (Strategy of Firms towards Entry. The Case of the Chemical Industry. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 30–62.

- **May, J. D. and Denny, M.** Post-War Productivity in Canadian Manufacturing. *Can. J. Econ.*, February 1979, *12*(1), pp. 29–41.

McDermott, P. J. Changing Manufacturing Enterprise in the Metropolitan Environment: The Case of Electronics Firms in London. *Reg. Stud.*, 1978, *12*(5), pp. 541–50.

McLean, R. A. Interindustry Differences in Strike Activity. *Ind. Relat.*, Winter 1979, *18*(1), pp. 103–09.

Navatte, P. L'étude des effets micro-économiques produits par les opérations de fusion absorption (une analyse appliquée à l'industrie française et au cas du secteur du ciment). (The Micro Economic Effects of Corporate Mergers. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 117–43.

Ortego, A. J., Jr. Competition and Regulation in the Food Industry: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 190–91.

- **Oster, G.** A Factor Analytic Test of the Theory of the Dual Economy. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 33–39.
- **Page, J. M., Jr.** Economies of Scale, Income Distribution, and Small-Enterprise Promotion in Ghana's Timber Industry. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 159–82.

Ratchford, B. T. and Ford, G. T. A Study of Prices and Market Shares in the Computer Mainframe Industry: Reply. *J. Bus.*, January 1979, *52*(1), pp. 125–34.

- **Richard, D.** A Dynamic Model of the World Copper Industry. *Int. Monet. Fund Staff Pap.*, December 1978, *25*(4), pp. 779–833.

Richards, G. M. Labour's Share in the Value Added of Australian Manufacturing, 1945–46–1967–68. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 224–45.

Round, D. K. Economies of Firm Size: A Note on Their Calculation and Relationship with Concentration. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 356–61.

Rudolph, P. M. Some Industry Effects on the Balance Sheet Structure of Manufacturers: 1964–1974. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 138–44.

- **Sims, W. A.** The Response of Firms to Pollution Charges. *Can. J. Econ.*, February 1979, *12*(1), pp. 57–74.

Sines, R. H. Sectoral Elasticities of Substitution between Labour and Capital in Venezuelan Manufacturing: A Cross-Sectional Micro Analysis. *World Devel.*, January 1979, *7*(1), pp. 79–82.

Svoboda, M. Long-Term Development of the Czechoslovak Engineering Industry and Its Main Branches. *Czech. Econ. Digest.*, December 1978, (8), pp. 81–93.

- **Tarr, D. G.** Cyclical Dumping: The Case of Steel Products. *J. Int. Econ.*, February 1979, *9*(1), pp. 57–63.
- **Timmermann, V.; Focke, G. and Ruiz, M.** Supplementäre Strategien für Entwicklungsländer: Eine empirische Ermittlung strategischer Sektoren unter Verwendung der Input-Output-Technik. (Supplementary Strategies for Developing Countries: An Empirical Determination of Strategic Sectors by Means of the Input-Output-Technique. With English summary.) *Jahr. Nationalökon. Statist.*, October 1978, *193*(5), pp. 427–48.
- **Vroman, S. and Vroman, W.** Money Wage Changes: Before, During and After Controls. *Southern Econ. J.*, April 1979, *45*(4), pp. 1172–87.

Wassermann, U. Pharmaceuticals for the Fourth World. *J. World Trade Law*, March–April 1979, *13*(2), pp. 178–81.

Ylä-anttila, P. Suomen ja Ruotsin metsateollisuuden yrityskohtainen kannattavuus vuosina 1971–1976. (Probability of Finnish and Swedish Forest Industry Firms in 1971–1976. With English summary.) *Kansant. Aikak.*, 1978, *74*(3), pp. 247–55.

632 Industry Studies: Extractive Industries

633 Industry Studies: Distributive Trades

634 Industry Studies: Construction

635 Industry Studies: Services and Related Industries

Dowling, G. R. and Midgley, D. F. The Decision Process Models of Antarctic Travel Innovators. *Australian J. Manage.*, October 1978, *3*(2), pp. 147–61.

• **Dymmel, M. D.** Technology in Telecommunications: Its Effect on Labor and Skills. *Mon. Lab. Rev.*, January 1978, *102*(1), pp. 13–19.

Eisenbeis, R. A. and Schweitzer, P. R. Tie-ins between the Granting of Credit and Sale of Insurance by Bank Holding Companies and Other Lenders. *Fed. Res. Bull.*, February 1979, *65*(2), pp. 110–11.

Eldor, D.; Shami, C. H. and Sudit, E. F. Production-Cost Elasticities in Product and Factor Markets: The Case of Telecommunications. *J. Econ. Bus.*, Winter 1979, *31*(2), pp. 84–89.

Ellickson, B. Hedonic Theory and the Demand for Cable Television. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 183–89.

• **Figlewski, S.** Subjective Information and Market Efficiency in a Betting Market. *J. Polit. Econ.*, February 1979, *87*(1), pp. 75–88.

Hamilton, M. S. Power Plant Siting: A Literature Review. *Natural Res. J.*, January 1979, *19*(1), pp. 75–95.

von Hauenschield, G. and Grub, P. D. International Tourism as a Factor in Economic Development for the L.D.C.'s. *J. Econ. Devel.*, July 1978, *3*(1), pp. 153–72.

Horowitz, I. The Implications of Home Box Office for Sports Broadcasts. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 743–68.

Jones, J. C. H. and Davies, D. K. Not Even Semitough: Professional Sport and Canadian Antitrust. *Antitrust Bull.*, Winter 1978, *23*(4), pp. 713–42.

Koenker, R. Optimal Peak Load Pricing with Time-Additive Consumer Preferences. *J. Econometrics*, January 1979, *9*(1/2), pp. 175–92.

Mead, W. J. Political-Economic Problems of Energy—A Synthesis. *Natural Res. J.*, October 1978, *18*(4), pp. 703–23.

Panzar, J. C. and Willig, R. D. Theoretical Determinants of the Industrial Demand for Electricity by Time of Day. *J. Econometrics*, January 1979, *9*(1/2), pp. 193–207.

• **Raviv, A.** The Design of an Optimal Insurance Policy. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 84–96.

Roulac, S. E. Real Estate Appraisals: Critique and Analysis. *J. Portfol. Manage.*, Winter 1979, *5*(2), pp. 69–74.

Schall, L. D. and Kerr, H. S. The Validity of Existing Capitalization Methods. *Eng. Econ.*, Fall 1978, *24*(1), pp. 29–35.

Spann, R. M. and Beauvais, E. C. Econometric Estimation of Peak Electricity Demands. *J. Econometrics*, January 1979, *9*(1/2), pp. 119–36.

Spence, M. Product Differentiation and Performance in Insurance Markets. *J. Public Econ.*, December 1978, *10*(3), pp. 427–47.

Suits, D. B. The Elasticity of Demand for Gambling. *Quart. J. Econ.*, February 1979, *93*(1), pp. 155–62.

Walker, M. C. Determining the Appropriate Discount Rate for Private, Not-for-Profit Organizations. *Manage. Account.*, March 1979, *60*(9), pp. 54–56.

Willig, R. D. and Bailey, E. E. The Economic Gradient Method. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 96–101.

640 Economic Capacity

641 Economic Capacity

Esposito, F. F. and Esposito, L. Excess Capacity and Market Structure: Another Look at the Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 159–60.

Goisis, G. Nuove teorie sull'inutilizzazione degli impianti: il caso italiano. (New Theories on Capital Idleness: The Italian Case. With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 745–73.

Manison, L. G. Some Factors Influencing the United Kingdom's Economic Growth Performance. *Int. Monet. Fund Staff Pap.*, December 1978, *25*(4), pp. 705–41.

Mann, H. M.; Meehan, J. W., Jr. and Ramsay, G. A. Market Structure and Excess Capacity: A Look at Theory and Some Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 156–59.

• **You, J. K.** Capital Utilization, Productivity, and Output Gap. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 91–100.

700 Agriculture; Natural Resources

710 Agriculture

Adelman, I. and Morris, C. T. The Role of Institutional Influences in Patterns of Agricultural Development in the Nineteenth and Early Twentieth Centuries: A Cross-Section Quantitative Study. *J. Econ. Hist.*, March 1979, *39*(1), pp. 159–76.

Ahmed, I. Unemployment and Underemployment in Bangladesh Agriculture. *World Devel.*, November/December 1978, *6*(11/12), pp. 1281–96.

Franěk, R. Socialist Transformations in Agriculture. *Czech. Econ. Digest.*, November 1978, (7), pp. 19–35.

Grabowski, R. Obstacles to Technological Re-

search in Less Developed Nations. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 83–95.

Hayami, Y., et al. Agricultural Growth against a Land Resource Constraint: The Philippine Experience: Reply. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 210.

Hunter, J. M. and Ntiri, G. K. Speculations on the Future of Shifting Agriculture in Africa. *J. Devel. Areas*, January 1978, *12*(2), pp. 183–208.

James, W. E. Agricultural Growth against a Land Resource Constraint: The Philippine Experience: Comment. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 206–09.

Knutson, M. and Tweeten, L. G. Toward an Optimal Rate of Growth in Agricultural Production Research and Extension. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 70–76.

Kudrna, K. System Concept of Scientific-Technical Development of Agriculture. *Czech. Econ. Digest.*, November 1978, (7), pp. 11–18.

Penson, J. B., Jr. and Hughes, D. W. Incorporation of General Economic Outcomes in Econometric Projections Models for Agriculture. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 151–57.

711 Agricultural Supply and Demand Analysis

Adams, F. G.; Behrman, J. R. and Roldan, R. A. Measuring the Impact of Primary Commodity Fluctuations on Economic Development: Coffee and Brazil. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 164–68.

Bredahl, M. E.; Meyers, W. H. and Collins, K. J. The Elasticity of Foreign Demand for U.S. Agricultural Products: The Importance of the Price Transmission Elasticity. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 58–63.

• **Caves, R. E.** Organization, Scale, and Performance of the Grain Trade. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 107–23.

• **Doran, M. H.; Low, A. R. C. and Kemp, R. L.** Cattle as a Store of Wealth in Swaziland: Implications for Livestock Development and Overgrazing in Eastern and Southern Africa. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 41–47.

Griffiths, W. E. and Anderson, J. R. Specification of Agricultural Supply Functions—Empirical Evidence on Wheat in Southern N.S.W. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 115–28.

Herdt, R. W.; Te, A. and Barker, R. The Prospects for Asian Rice Production. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 183–203.

Myers, L. H. Competition and Regulation in the Food Industry: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 188–89.

Parikh, A. Estimation of Supply Functions for Coffee. *Appl. Econ.*, March 1979, *11*(1), pp. 43–54.

Park, Y. J. On X-Efficiency and Output Differences. *Rivista Int. Sci. Econ. Com.*, January 1979, *26*(1), pp. 73–83.

Paul, A. B. Some Basic Problems of Research into Competition in Agricultural Markets. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 170–77.

• **Peck, A. E.** Implications of Private Storage of Grains for Buffer Stock Schemes to Stabilize Prices. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 125–40.

• **Peterson, W. L.** International Farm Prices and the Social Cost of Cheap Food Policies. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 12–21.

Piggott, R. R. Decomposing the Variance of Gross Revenue into Demand and Supply Components. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 145–57.

• **Taylor, C. R. and Talpaz, H.** Approximately Optimal Carryover Levels for Wheat in the United States. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 32–40.

712 Agricultural Situation and Outlook

Herdt, R. W.; Te, A. and Barker, R. The Prospects for Asian Rice Production. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 183–203.

Stevens, N. A. and Luttrell, C. B. 1979 Food and Agricultural Outlook. *Fed. Res. Bank St. Louis Rev.*, February 1979, *61*(2), pp. 19–24.

• **Taylor, C. R. and Talpaz, H.** Approximately Optimal Carryover Levels for Wheat in the United States. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 32–40.

713 Agricultural Policy, Domestic and International

• **Abbott, P. C.** Modeling International Grain Trade with Government Controlled Markets. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 22–31.

Abbott, P. C. The Role of Government Interference in International Commodity Trade Models. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 135–40.

Alaouze, C. M.; Sturgess, N. H. and Watson, A. S. Australian Wheat Storage: A Dynamic Programming Approach. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 158–74.

Bain, R. A. An Appraisal of a Buffer Fund Scheme for Beef: Comment. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 135–37.

Bigman, D. and Reutlinger, S. National and International Policies toward Food Security and Price Stabilization. *Amer. Econ. Rev.*, May 1979,

69(2), pp. 159–63.

Blandford, D. and Lee, S. Quantitative Evaluation of Stabilization Policies in International Commodity Markets. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 128–34.

Ch'iu-li, Y. Mobilize the Whole Party: Fight a Decisive Battle for Three Years: Strive Hard to Basically Realize Agricultural Mechanization. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 50–82.

• **Cohen, J. S.** Facism and Agriculture in Italy: Policies and Consequences. *Econ. Hist. Rev., 2nd Ser.*, February 1979, *32*(1), pp. 70–87.

• **Doran, M. H.; Low, A. R. C. and Kemp, R. L.** Cattle as a Store of Wealth in Swaziland: Implications for Livestock Development and Overgrazing in Eastern and Southern Africa. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 41–47.

Harriss, B. Allocation, Location and Dislocation in Non-Market Rice Distribution. *J. Devel. Stud.*, October 1978, *15*(1), pp. 87–105.

Herman, S. W. The Farm Sector. *Surv. Curr. Bus.*, November 1978, *58*(11), pp. 18–26.

Johnson, P. R.; Grennes, T. and Thursby, M. Trade Models with Differentiated Products. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 120–27.

Keene, J. C. A Review of Governmental Policies and Techniques for Keeping Farmers Farming. *Natural Res. J.*, January 1979, *19*(1), pp. 119–44.

Labys, W. C. International Commodity Markets and Trade: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 141–42.

Meilke, K. D. and Zwart, A. C. Effects of Alternative Specifications on the Policy Implications of a Model: An Illustration. *Can. J. Agr. Econ.*, February 1979, *27*(1), pp. 15–22.

Parton, K. A. An Appraisal of a Buffer Fund Scheme for Beef: Reply. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 138–39.

• **Peterson, W. L.** International Farm Prices and the Social Cost of Cheap Food Policies. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 12–21.

Rieder, P. Volkswirtschaftliche Kosten unterschiedlicher Agramarktsysteme. (National Costs of Different Agricultural Market Policies. With English summary.) *Schweiz. Z. Volkswirtsch. Statist.*, March 1979, *115*(1), pp. 45–64.

Robinson, W. C. Economic Policy and Population Change in Thailand. *World Devel.*, November/December 1978, *6*(11/12), pp. 1261–69.

Snyder, D. L. The Economic Implications of Acreage Limitation. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 125–30.

Stern, R. M. International Commodity Markets and Trade: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 143–44.

• **Taylor, C. R. and Talpaz, H.** Approximately Optimal Carryover Levels for Wheat in the United States. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 32–40.

Trapp, J. N. An Economic Evaluation of Alternative Peanut Policies: Comment. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 107–10.

Varga, J. Tasks of the Agricultural Policy of the Communist Party. *Czech. Econ. Digest.*, November 1978, (7), pp. 3–10.

Yung-kuei, C. Treat Farmland Capital Construction as a Great Socialist Task. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 21–36.

714 Agricultural Finance

Boehlje, M.; Harris, D. G. and Hoskins, J. A Modeling Approach to Flows of Funds in Localized Financial Markets. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 145–50.

Duncan, M. Financial Markets for Agriculture: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 165–66.

Herr, W. M. Financial Markets for Agriculture: Discussion. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 167–69.

Lesueur, J. F. The Impact of Supervised Credit Programs on Technological Change in Developing Agriculture: Comment. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 211–13.

Lindley, J. T. and Wiseman, P. A. Some Fiscal Impacts of Farmers Home Administration Home Loan Activity on a Rural County. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 83–86.

Robison, L. J. and Brake, J. R. Application of Portfolio Theory to Farmer and Lender Behavior. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 158–64.

Scobie, G. M. and Franklin, D. L. The Impact of Supervised Credit Programs on Technological Change in Developing Agriculture: Reply. *Australian J. Agr. Econ.*, August/Dec. 1978, *22*(2&3), pp. 214–15.

715 Agricultural Marketing and Agribusiness

Alaouze, C. M.; Sturgess, N. H. and Watson, A. S. Australian Wheat Storage: A Dynamic Programming Approach. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 158–74.

Hallberg, M. C. and Kriebel, W. R. A Routing Algorithm Using the Nearest-Neighbor Concept. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 87–90.

Harriss, B. Allocation, Location and Dislocation in Non-Market Rice Distribution. *J. Devel. Stud.*,

716 Farm Management; Allocative Efficiency

717 Land Reform and Land Use

Luttrell, C. B. The "Danger" from Foreign Ownership of U.S. Farmland. *Fed. Res. Bank St. Louis Rev.*, January 1979, *61*(1), pp. 2–9.

Park, Y. J. On X-Efficiency and Output Differences. *Rivista Int. Sci. Econ. Com.*, January 1979, *26*(1), pp. 73–83.

Sinden, J. A. Estimation of Consumer's Surplus Values for Land Policies. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 175–93.

Snyder, D. L. The Economic Implications of Acreage Limitation. *Intermountain Econ. Rev.*, Fall 1978, *9*(2), pp. 125–30.

Wengert, N. Constitutional Principles Applied to Land Use Planning and Regulation: A Tentative Restatement. *Natural Res. J.*, January 1979, *19*(1), pp. 1–20.

Wunderlich, G. Landownership: A Status of Facts. *Natural Res. J.*, January 1979, *19*(1), pp. 97–118.

718 Rural Economics

Anderson, K. On Why Rates of Assistance Differ between Australia's Rural Industries. *Australian J. Agr. Econ.*, August/December 1978, *22*(2&3), pp. 99–114.

Bal'tsevich, L. A. The Consumption of Durable Goods by Rural Dwellers in the Novosibirsk Region. *Prob. Econ.*, November 1978, *21*(7), pp. 76–85.

• **Bardhan, P. K.** Agricultural Development and Land Tenancy in a Peasant Economy: A Theoretical and Empirical Analysis. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 48–57.

Carroll, M. Rural Land Use Control in Great Britain. *Natural Res. J.*, January 1979, *19*(1), pp. 145–59.

Chinn, D. L. Rural Poverty and the Structure of Farm Household Income in Developing Countries: Evidence from Taiwan. *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 283–301.

Cloke, P. J. Changing Patterns of Urbanisation in Rural Areas of England and Wales, 1961-1971. *Reg. Stud.*, 1978, *12*(5), pp. 603–17.

Deboeck, J. Rural Development Policies and Practices of the World Bank. *Tijdschrift Econ. Manage.*, 1978, *23*(4), pp. 407–26.

Herrin, A. N. Rural Electrification and Fertility Change in the Southern Philippines. *Population Devel. Rev.*, March 1979, *5*(1), pp. 61–86.

Hunt, D. Chayanov's Model of Peasant Household Resource Allocation and Its Relevance to Mbere Division, Eastern Kenya. *J. Devel. Stud.*, October 1978, *15*(1), pp. 59–86.

Kim, D. Sources of Overtime Changes in the Rural-Urban Gap and the Intrafarm Inequality of Income in Korea. *J. Econ. Devel.*, July 1978, *3*(1), pp. 173–85.

Lindley, J. T. and Wiseman, P. A. Some Fiscal Impacts of Farmers Home Administration Home Loan Activity on a Rural County. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 83–86.

Meyer, R. L. and Larson, D. W. Rural Nonfarm Employment: The Recent East Asian Experience. *J. Econ. Devel.*, July 1978, *3*(1), pp. 91–112.

• **Murdock, S. H.; Wieland, J. S. and Leistritz, F. L.** An Assessment of the Validity of the Gravity Model for Predicting Community Settlement Patterns in Rural Energy-Impacted Areas of the West. *Land Econ.*, November 1978, *54*(4), pp. 461–71.

• **Powell, R. A. and Mandeville, T. D.** Analysis of Sector Interactions and Stability in a Rural Region of NSW. *Econ. Rec.*, August 1978, *54*(146), pp. 239–55.

Riskin, C. Intermediate Technology in China's Rural Industries. *World Devel.*, November/December 1978, *6*(11/12), pp. 1297–1311.

Slepička, A. Transformation of the Village and the Way of Life. *Czech. Econ. Digest.*, November 1978, (7), pp. 36–51.

720 Natural Resources

721 Natural Resources

• **Aarrestad, J.** Optimal Savings and Exhaustible Resource Extraction in an Open Economy. *J. Econ. Theory*, October 1978, *19*(1), pp. 163–79.

Aivazian, V. A. and Callen, J. L. A Note on the Economics of Exhaustible Resources. *Can. J. Econ.*, February 1979, *12*(1), pp. 83–89.

Arvay, J. Newfoundland's Claim to Offshore Mineral Resources: An Overview of the Legal Issues. *Can. Public Policy*, Winter 1979, *5*(1), pp. 32–44.

Bhattacharyya, A. K. Irrigation and Water Management by the Damodar Valley Corporation. *J. Devel. Stud.*, October 1978, *15*(1), pp. 34–58.

• **Burness, H. S. and Quirk, J. P.** Appropriative Water Rights and the Efficient Allocation of Resources. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 25–37.

Castle, E. N. Property Rights and the Political Economy of Resource Scarcity: Reply. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 119.

Christopherson, D. A. A Status Group Dynamics Approach to Predicting Participation Rates in Regional Recreation Demand Studies: Comment. *Land Econ.*, November 1978, *54*(4), pp. 520–21.

• **Clark, C. W.; Clarke, F. H. and Munro, G. R.** The Optimal Exploitation of Renewable Re-

• **Cocheba, D. J. and Langford, W. A.** Wildlife Valuation: The Collective Good Aspect of Hunting. *Land Econ.*, November 1978, *54*(4), pp. 490–504.

Edwards, F. R. and Stevens, B. J. The Provision of Municipal Sanitation Services by Private Firms: An Empirical Analysis of the Efficiency of Alternative Market Structures and Regulatory Arrangements. *J. Ind. Econ.*, December 1978, *27*(2), pp. 133–47.

Endres, A. Monopoly-Power as a Means for Pollution-Control? *J. Ind. Econ.*, December 1978, *27*(2), pp. 185–87.

Hamlen, W. A., Jr. The Optimality and Feasibility of Uniform Air Pollution Controls. *J. Environ. Econ. Manage.*, December 1978, *5*(4), pp. 301–12.

Harrison, D., Jr. and Rubinfeld, D. L. The Distribution of Benefits from Improvements in Urban Air Quality. *J. Environ. Econ. Manage.*, December 1978, *5*(4), pp. 313–32.

Hjorth-Andersen, C. Road Noise and Property Values—Some Evidence from the Copenhagen Area. *Scand. J. Econ.*, 1978, *80*(4), pp. 454–60.

Hoch, I. Cost of Air Pollution Control for Users of Electricity: Comment. *Growth Change*, January 1979, *10*(1), pp. 26–27.

Huang, W. A Framework for Economic Analysis of Livestock and Crop Byproducts Utilization. *Amer. J. Agr. Econ.*, February 1979, *61*(1), pp. 91–96.

Kelly, E. Judicial Review of a Revision to Nevada's SIP Is Deferred until Final Action by EPA Administrator. *Natural Res. J.*, January 1979, *19*(1), pp. 225–27.

Knapp, M. R. J. Economies of Scale in Sewage Purification and Disposal. *J. Ind. Econ.*, December 1978, *27*(2), pp. 163–83.

Lewis, T. R.; Matthews, S. A. and Burness, H. S. Monopoly and the Rate of Extraction of Exhaustible Resources: Note. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 227–30.

Liu, B. The Costs of Air Quality Deterioration and Benefits of Air Pollution Control: Estimates of Mortality Costs for Two Pollutants in 40 U.S. Metropolitan Areas. *Amer. J. Econ. Soc.*, April 1979, *38*(2), pp. 187–95.

Lowe, P. D. Pricing Problems in an Input-Output Approach to Environment Protection. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 110–17.

Marin, A. National Income, Welfare, and the Environment. *Rev. Income Wealth*, December 1979, *24*(4), pp. 415–28.

McElwee, C. L. Commerce Clause Limitations on a State's Regulation of Waste Disposal. *Natural Res. J.*, October 1978, *18*(4), pp. 925–31.

Mead, W. J. The Performance of Government in Energy Regulations. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 352–56.

Muehlenweg, R. The Continuing Problem of Nuclear Waste. *Natural Res. J.*, October 1978, *18*(4), pp. 899–902.

Muskin, J. B. and Sorrentino, J. A., Jr. An "Effluent" Charge Approach to Aircraft Noise Abatement. *J. Environ. Econ. Manage.*, December 1978, *5*(4), pp. 333–50.

Page, W. P. and Fellner, W. Exploratory Techniques for the Determination of Potential Dose-Response Relationships between Human Health and Air Pollution. *J. Environ. Econ. Manage.*, December 1978, *5*(4), pp. 376–89.

• **Pethig, R.** Environmental Management in General Equilibrium: A New Incentive Compatible Approach. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 1–27.

Polinsky, A. M. Notes on the Symmetry of Taxes and Subsidies in Pollution Control. *Can. J. Econ.*, February 1979, *12*(1), pp. 75–83.

Porter, R. C. A Social Benefit-Cost Analysis of Mandatory Deposits on Beverage Containers. *J. Environ. Econ. Manage.*, December 1978, *5*(4), pp. 351–75.

• **Randall, A., et al.** Reclaiming Coal Surface Mines in Central Appalachia: A Case Study of the Benefits and Costs. *Land Econ.*, November 1978, *54*(4), pp. 472–89.

Rutledge, G. L. Pollution Abatement and Control Expenditures in Constant and Current Dollars, 1972–77. *Surv. Curr. Bus.*, February 1979, *59*(2), pp. 13–20, 72.

Schipper, L. Another Look at Energy Conservation. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 362–68.

• **Sims, W. A.** The Response of Firms to Pollution Charges. *Can. J. Econ.*, February 1979, *12*(1), pp. 57–74.

Soladay, J. J. Monopoly and Crude Oil Extraction. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 234–39.

Storey, D. J. Market Structure and Externalities: The Case of Water Pollution in England and Wales. *J. Ind. Econ.*, December 1978, *27*(2), pp. 149–62.

Tullock, G. Monopoly and the Rate of Extraction of Exhaustible Resources: Note. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 231–33.

Waggoner, D. M. Implementation of the Environmental Impact Statement. *Yale Law J.*, January 1979, *88*(3), pp. 596–611.

Weisbrod, B. A. Distributional Effects of Collective Goods. *Policy Anal.*, Winter 1979, *5*(1),

can Oil Policy toward the Middle East. *Polit. Sci. Quart.*, Spring 1979, *94*(1), pp. 77–96.

MacLaury, B. K. OPEC Surpluses and World Financial Stability. *J. Financial Quant. Anal.*, November 1978, *13*(4), pp. 737–43.

McDonald, S. L. Federal Energy Resource Leasing Policy. *Natural Res. J.*, October 1978, *18*(4), pp. 747–60.

McIntyre, R. J. and Thornton, J. R. Urban Design and Energy Utilization: A Comparative Analysis of Soviet Practice. *J. Compar. Econ.*, December 1978, *2*(4), pp. 334–54.

McKie, J. W. Oil Imports: Is Any Policy Possible? *Natural Res. J.*, October 1978, *18*(4), pp. 731–45.

McLure, C. E., Jr. A Tale of Two Minerals: Severance Taxes on Energy Resources in the United States: Comment. *Growth Change*, January 1979, *10*(1), pp. 72–74.

Mead, W. J. Energy Policy and Deregulation: Two Hot Topics, or Does Smoke Necessarily Mean There's Fire? Comment. *Growth Change*, January 1979, *10*(1), pp. 14–15.

Mead, W. J. Political-Economic Problems of Energy—A Synthesis. *Natural Res. J.*, October 1978, *18*(4), pp. 703–23.

Mead, W. J. The Performance of Government in Energy Regulations. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 352–56.

Miernyk, W. H. The Energy Conference—A Commentary. *Growth Change*, January 1979, *10*(1), pp. 138–39.

Mossavar-Rahmani, B. Hedging against the Energy Crunch: Two Perspectives. *J. Energy Devel.*, Autumn 1978, *4*(1), pp. 72–79.

Moyer, R. The Role of Coal: Problems and Policies. *Natural Res. J.*, October 1978, *18*(4), pp. 761–74.

• **Murdock, S. H.; Wieland, J. S. and Leistritz, F. L.** An Assessment of the Validity of the Gravity Model for Predicting Community Settlement Patterns in Rural Energy-Impacted Areas of the West. *Land Econ.*, November 1978, *54*(4), pp. 461–71.

Ogden, D. M., Jr. Protecting Energy Turf: The Department of Energy Organization Act. *Natural Res. J.*, October 1978, *18*(4), pp. 845–57.

Özatalay, S.; Grubaugh, S. and Long, T. V., II. Energy Substitution and National Energy Policy. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 369–71.

Penner, R. G. Tax Policy and Producer Incentives in the Energy Crisis: Comment. *Growth Change*, January 1979, *10*(1), pp. 37–38.

Ramsay, W. Second Thoughts about the Energy Crisis. *J. Energy Devel.*, Autumn 1978, *4*(1), pp. 49–71.

Rose, A.; Edmunds, S. and Lofting, E. The Economics of Geothermal Energy Development at the Regional Level. *J. Energy Devel.*, Autumn 1978, *4*(1), pp. 126–52.

Rycroft, R. W. Energy Policy Feedback: Bureaucratic Responsiveness in the Federal Energy Administration. *Policy Anal.*, Winter 1979, *5*(1), pp. 1–19.

Schanz, J. J., Jr. and Perry, H. Oil Shale—A New Set of Uncertainties. *Natural Res. J.*, October 1978, *18*(4), pp. 775–85.

Schipper, L. Another Look at Energy Conservation. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 362–68.

Shoup, C. S. Envoi—The National Energy Act of 1978. *Growth Change*, January 1979, *10*(1), pp. 90–91.

Soladay, J. J. Monopoly and Crude Oil Extraction. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 234–39.

Stobaugh, R. and Yergin, D. After the Second Shock: Pragmatic Energy Strategies. *Foreign Aff.*, Spring 1979, *57*(4), pp. 836–71.

Whinston, A. B. Some Thoughts on Energy Modeling. *Growth Change*, January 1979, *10*(1), pp. 137.

Wright, A. W. Energy Policy and Deregulation: Two Hot Topics, or Does Smoke Necessarily Mean There's Fire? *Growth Change*, January 1979, *10*(1), pp. 4–13.

Yokell, M. D. The Role of the Government in Subsidizing Solar Energy. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 357–61.

730 Economic Geography

731 Economic Geography

• **Blaug, M.** The German Hegemony of Location Theory: A Puzzle in the History of Economic Thought. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 21–29.

• **Mulligan, G. F.** Additional Properties of a Hierarchical City-Size Model. *J. Reg. Sci.*, February 1979, *19*(1), pp. 57–66.

800 Manpower; Labor; Population

810 Manpower Training and Allocation; Labor Force and Supply

811 Manpower Training and Development

Gay, G. Azienda e scuola: un rapporto difficile dalla parte dell'azienda. (Business and School: A Difficult Relationship—The Business Angle. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 487–91.

Social Insurance with Variable Retirement. *J. Public Econ.*, December 1978, *10*(3), pp. 295–336.

• **Driehuis, W.** Labour Market Imbalances and Structural Unemployment. *Kyklos*, 1978, *31*(4), pp. 638–61.

• **Flemming, J. S.** Aspects of Optimal Unemployment Insurance: Search, Leisure, Savings and Capital Market Imperfections. *J. Public Econ.*, December 1978, *10*(3), pp. 403–25.

Fry, M. J. Further Investigation into Turkey's Phillips Curve. *METU*, Spring 1978, (19), pp. 22–30.

Grossman, H. I. Why Does Aggregate Employment Fluctuate? *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 64–69.

• **Gultekin, B. and Santomero, A. M.** Indexation, Expectations, and Stability. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 1–21.

Heckman, J. J. and Willis, R. J. Reply to Mincer and Ofek [The Distribution of Lifetime Labor Force Participation of Married Women]. *J. Polit. Econ.*, February 1979, *87*(1), pp. 203–11.

Hvidding, J. M. Speculative Behavior, Search, and Waiting: A Note on a Potential Ambiguity in the Interpretation of Job Search Models. *Southern Econ. J.*, April 1979, *45*(4), pp. 1248–53.

• **Ito, H. H.** The Effective Wage Rate, Labor Force Participation and the Rate of Return to Investment in Human Capital. *Southern Econ. J.*, April 1979, *45*(4), pp. 1059–71.

Jonung, L. and Wadensjö, E. A Model of the Determination of Wages and Prices in Sweden, 1922–1971. *Econ. Hist.*, 1978, *21*(2), pp. 104–13.

Kahn, L. M. and Morimune, K. Unions and Employment Stability: A Sequential Logit Approach. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 217–35.

• **Kiefer, N. M. and Neumann, G. R.** An Empirical Job-Search Model, with a Test of the Constant Reservation-Wage Hypothesis. *J. Polit. Econ.*, February 1979, *87*(1), pp. 89–107.

Kraus, M. On Pareto-Optimal Time Allocation. *Econ. Inquiry*, January 1979, *17*(1), pp. 142–45.

• **Laing, N. F.** The Dynamics of Inflation and Employment in the Full-Employment Zone: A Theoretical Analysis. *Econ. Rec.*, August 1978, *54*(146), pp. 219–28.

• **Lloyd, P. J.** Wage Indexation: The Treatment of Public Sector Taxes and Goods. *Econ. Rec.*, August 1978, *54*(146), pp. 182–94.

Long, N. V. Optimal Inter-Regional Movements of Labour: A Theoretical Model. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 290–302.

McCallum, B. T. The Current State of the Policy-Ineffectiveness Debate. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 240–45.

Mincer, J. and Ofek, H. The Distribution of Lifetime Labor Force Participation of Married Women: Comment. *J. Polit. Econ.*, February 1979, *87*(1), pp. 197–201.

• **Modigliani, F. and Papademos, L.** Optimal Demand Policies against Stagflation. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 736–82.

Moffitt, R. A. A Note on the Effect of Taxes and Transfers on Labor Supply. *Southern Econ. J.*, April 1979, *45*(4), pp. 1266–73.

• **Nickell, S. J.** Fixed Costs, Employment and Labour Demand over the Cycle. *Economica*, November 1978, *45*(180), pp. 329–45.

• **Nickell, S. J.** The Effect of Unemployment and Related Benefits on the Duration of Unemployment. *Econ. J.*, March 1979, *89*(353), pp. 34–49.

• **Orosel, G. O.** On the Wage-Interest Curve, Its Dual Relation, and the Theory of Capital within a Two-Sector Vintage Model. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 367–87.

Paunio, J. Taloudellisen aktiviteetin lisääminen ilman inflaatiota. (Expansions without Inflation. With English summary.) *Kansant. Aikak.*, 1978, *74*(1), pp. 17–34.

Perloff, J. M. and Wachter, M. L. The New Jobs Tax Credit: An Evaluation of the 1977–78 Wage Subsidy Program. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 173–79.

Peterson, J. L. Work and Socioeconomic Life Cycles: An Agenda for Longitudinal Research. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 23–27.

• **Phelps, E. S.** Disinflation without Recession: Adaptive Guideposts and Monetary Policy. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 783–809.

Ramser, H. J. Die Kontraktheorie als Beitrag zu einer ökonomischen Theorie des Arbeitsmarkets. (Contract Theory as a Contribution to the Economic Theory of the Labour Market. With English summary.) *Z. ges. Staatswiss.*, December 1978, *134*(4), pp. 628–59.

• **Riddell, W. C.** The Empirical Foundations of the Phillips Curve: Evidence from Canadian Wage Contract Data. *Econometrica*, January 1979, *47*(1), pp. 1–24.

• **Salop, S. C.** A Model of the Natural Rate of Unemployment. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 117–25.

Seidman, L. S. The Return of the Profit Rate to the Wage Equation. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 139–42.

822 Public Policy; Role of Government

823 Labor Mobility: National and International Migration

Ault, D. E.; Rutman, G. L. and Stevenson, T. Mobility in the Labor Market for Academic Economists. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 148–53.

Bellante, D. The North-South Differential and the Migration of Heterogeneous Labor. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 166–75.

• **Fields, G. S.** Place-to-Place Migration: Some New Evidence. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 21–32.

Langley, P. C. The Private Gains to Long-Distance Migration in the United States. *Econ. J.*, March 1979, *89*(353), pp. 120–26.

Long, N. V. Optimal Inter-Regional Movements of Labour: A Theoretical Model. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 290–302.

Menken, J. Seasonal Migration and Seasonal Variation in Fecundability: Effects on Birth Rates and Birth Intervals. *Demography*, February 1979, *16*(1), pp. 103–19.

Petroni, G. Mobilità internazionale dei quadri: il problema italiano. (International Mobility of Managers: The Italian Problem. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 485–86.

• **Steinberg, E. I.** Labor Mobility in 1960–65 and 1970–75. *Surv. Curr. Bus.*, January 1979, *59*(1), pp. 25–27, 36.

Van Rompuy, P. and Vanbuel, M. Hoe efficient werken de sectoriële arbeidsmarkten? (Testing the Efficiency of Sectoral Labour Markets: An Empirical Application to Belgium. With English summary.) *Tijdschrift Econ. Manage.*, 1978, *23*(4), pp. 427–44.

824 Labor Market Studies, Wages, Employment

Adler, H. J. and Hawrylyshyn, O. Estimates of the Value of Household Work, Canada, 1961 and 1971. *Rev. Income Wealth*, December 1979, *24*(4), pp. 333–55.

Ahmed, I. Unemployment and Underemployment in Bangladesh Agriculture. *World Devel.*, November/December 1978, *6*(11/12), pp. 1281–96.

Alden, J. D. and Saha, S. K. An Analysis of Second Jobholding in the EEC. *Reg. Stud.*, 1978, *12*(6), pp. 639–50.

Antos, J.; Mellow, W. and Triplett, J. E. What Is a Current Equivalent to Unemployment Rates of the Past? *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 36–46.

Ault, D. E.; Rutman, G. L. and Stevenson, T. Mobility in the Labor Market for Academic Economists. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 148–53.

• **Bartel, A. and Taubman, P.** Health and Labor Market Success: The Role of Various Diseases. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 1–8.

Berry, A. and Sabot, R. H. Labour Market Performance in Developing Countries: A Survey. *World Devel.*, November/December 1978, *6*(11/12), pp. 1119–1242.

Bishop, J. and Haveman, R. Selective Employment Subsidies: Can Okun's Law be Repealed? *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 124–30.

• **Björklund, A.** On the Duration of Unemployment in Sweden, 1965–1976. *Scand. J. Econ.*, 1978, *80*(4), pp. 421–39.

Blair, R. D. ERISA and the Prudent Man Rule: Avoiding Perverse Results. *Sloan Manage. Rev.*, Winter 1979, *20*(2), pp. 15–25.

Bruton, H. J. Labour Market Performance in Developing Countries: A Survey: Comment. *World Devel.*, November/December 1978, *6*(11/12), pp. 1243–46.

Cain, G. G. The Unemployment Rate as an Economic Indicator. *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 24–35.

• **Clark, C. G.** Wages and Profits. *Oxford Econ. Pap.*, November 1978, *30*(3), pp. 388–408.

Corbo, V. and Meller, P. Trade and Employment: Chile in the 1960's. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 196–201.

Creedy, J. The Inequality of Earnings and the Accounting Period. *Scot. J. Polit. Econ.*, February 1979, *26*(1), pp. 89–96.

Davis, C. H.; Eisenberg, W. M. and Kutscher, R. E. 'Quick' Special Purpose Surveys Passed Test during Coal Strike. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 62–65.

Del Boca, D. and Turvani, M. Eterogeneità della forza-lavoro e organizzazione familiare: uña verifica empirica. (Etherogeneity of Labor Market and Family Organization: An Empirical Model. With English summary.) *Giorn. Econ.*, November–December 1978, *37*(11–12), pp. 775–93.

• **Demetriades, E. I. and Psacharopoulos, G.** Education and Pay Structure in Cyprus. *Int. Lab. Rev.*, January–February 1979, *118*(1), pp. 103–11.

Deppler, M. and Regling, K. Labor Market Developments in the Major Industrial Countries. *Finance Develop.*, March 1979, *16*(1), pp. 22–27.

• **Devens, R. M.** Unemployment among Recipients of Food Stamps and AFDC. *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 47–52.

Di Marco, V. L'evoluzione delle posizioni sindacali di fronte al problema della disoccupazione.

ment. *Econ. J.*, March 1979, *89*(353), pp. 34–49.

• **Olajos, Á.** Changing Expectations of the Working Population towards Work in Hungary. *Acta Oecon.*, 1977, *19*(2), pp. 191–201.

Pedersen, P. O. Interaction between Short- and Long-run Development in Regions—The Case of Denmark. *Reg. Stud.*, 1978, *12*(6), pp. 683–700.

Pencavel, J. H. Constant-Utility Index Numbers of Real Wages: Revised Estimates. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 240–43.

Perloff, J. M. and Wachter, M. L. The New Jobs Tax Credit: An Evaluation of the 1977–78 Wage Subsidy Program. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 173–79.

Pesando, J. E. The Indexing of Private Pensions: An Economist's Perspective on the Current Debate. *Can. Public Policy*, Winter 1979, *5*(1), pp. 80–89.

Peterson, J. L. Work and Socioeconomic Life Cycles: An Agenda for Longitudinal Research. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 23–27.

• **Psacharopoulos, G. and Tinbergen, J.** On the Explanation of Schooling, Occupation and Earnings: Some Alternative Path Analyses. *De Economist*, 1978, *126*(4), pp. 505–20.

Quinn, J. F. Postal Sector Wages. *Ind. Relat.*, Winter 1979, *18*(1), pp. 92–96.

Reagan, B. B. Stocks and Flows of Academic Economists. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 143–47.

• **Richards, P. J.** Housing and Employment. *Int. Lab. Rev.*, January–February 1979, *118*(1), pp. 13–26.

Richards, G. M. Labour's Share in the Value Added of Australian Manufacturing, 1945–46–1967–68. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 224–45.

• **Riddell, W. C.** The Empirical Foundations of the Phillips Curve: Evidence from Canadian Wage Contract Data. *Econometrica*, January 1979, *47*(1), pp. 1–24.

• **Rones, P. L. and Leon, C.** Employment and Unemployment during 1978: An Analysis. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 3–12.

Rosenfeld, C. Multiple Jobholding Holds Steady in 1978. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 59–61.

• **Scherer, P. A.** The Perverse Additional Worker Effect in Australia. *Australian Econ. Pap.*, December 1978, *17*(31), pp. 261–75.

Schulz, J. H.; Leavitt, T. D. and Kelly, L. Private Pensions Fall Far Short of Preretirement Income Levels. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 28–32.

Scott, C. E. The Market for Ph.D. Economists: The Academic Sector. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 137–42.

Shulenburger, D. E.; Krider, C. E. and Pichler, J. A. The Impact on Earnings of the Employment Service. *Ind. Relat.*, Winter 1979, *18*(1), pp. 70–78.

Smith, M. M. Industrial Racial Wage Discrimination in the U.S. *Ind. Relat.*, Winter 1979, *18*(1), pp. 110–16.

Staines, G. L. and Quinn, R. P. American Workers Evaluate the Quality of Their Jobs. *Mon. Lab. Rev.*, January 1978, *102*(1), pp. 3–12.

• **Steinberg, E. I.** Labor Mobility in 1960–65 and 1970–75. *Surv. Curr. Bus.*, January 1979, *59*(1), pp. 25–27, 36.

Thakur, C. P. Skill Generation and Labor Market in a Developing Economy. *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 343–56.

Thompson, G. B. Black-White Differences in Private Pensions: Findings from the Retirement History Study. *Soc. Sec. Bull.*, February 1979, *42*(2), pp. 15–22.

Thornton, R. J. The Elasticity of Demand for Public School Teachers. *Ind. Relat.*, Winter 1979, *18*(1), pp. 86–91.

Todaro, M. P. Labour Market Performance in Developing Countries: A Survey: Comment. *World Devel.*, November/December 1978, *6*(11/12), pp. 1247–49.

• **Trivedi, P. K. and Rayner, J.** Wage Inertia and Comparison Effects in Australian Award Wage Determination, 1964–74. *Econ. Rec.*, August 1978, *54*(146), pp. 195–218.

Van Rompuy, P. and Vanbuel, M. Hoe efficient werken de sectoriële arbeidsmarkten? (Testing the Efficiency of Sectoral Labour Markets: An Empirical Application to Belgium. With English summary.) *Tijdschrift Econ. Manage.*, 1978, *23*(4), pp. 427–44.

Vanni, L. Per un dibattito, serio, sulla disoccupazione. (Towards a Serious Debate on Unemployment. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 479–83.

Viita, P. Työmotivaatio tuotannon edellytyksenä. (Motivation at Work. With English summary.) *Kansant. Aikak.*, 1978, *74*(2), pp. 195–98.

• **Viscusi, W. K.** Job Hazards and Worker Quit Rates: An Analysis of Adaptive Worker Behavior. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 29–58.

Vomfelde, W. Die Reaktion der Beschäftigung auf Schwankungen des Produktionswachstums im produzierenden Gewerbe der Bundesrepublik. (The Reactions of Employment on Fluctuations of Production Growth on the Manufacturing Sector of the Federal Republic. With English summary.) *Konjunkturpolitik*, 1978, *24*(5/6),

glish summary.) *L'Impresa*, 1978, *20*(6), pp. 493–98.

Holloway, H. Interest Groups in the Postpartisan Era: The Political Machine of the AFL-CIO. *Polit. Sci. Quart.*, Spring 1979, *94*(1), pp. 117–33.

Kahn, L. M. and Morimune, K. Unions and Employment Stability: A Sequential Logit Approach. *Int. Econ. Rev.*, February 1979, *20*(1), pp. 217–35.

Kauppinen, T. Suomen työmarkkinajärjestöjen voimasuhteista. (Labour Markets Organizations in Finland. With English summary.) *Kansant. Aikak.*, 1978, *74*(3), pp. 300–16.

Keeran, R. R. "Everything for Victory": Communist Influence in the Auto Industry during World War II. *Sci. Soc.*, Spring 1979, *43*(1), pp. 1–28.

Lappas, A. Trade Union Enterprises in a Market Economy. *Ann. Pub. Co-op. Econ.*, July–December 1978, *49*(3–4), pp. 389–403.

Walker, J. M. and Lawler, J. J. Dual Unions and Political Processes in Organizations. *Ind. Relat.*, Winter 1979, *18*(1), pp. 32–43.

832 Collective Bargaining

Bornstein, L. Industrial Relations in 1978: Some Bargaining Highlights. *Mon. Lab. Rev.*, January 1979, *102*(1), pp. 58–64.

• **Crawford, V. P.** On Compulsory-Arbitration Schemes. *J. Polit. Econ.*, February 1979, *87*(1), pp. 131–59.

Holmes, A. B. Union Activity and Teacher Salary Structure. *Ind. Relat.*, Winter 1979, *18*(1), pp. 79–85.

Katz, H. C. Municipal Pay Determination: The Case of San Francisco. *Ind. Relat.*, Winter 1979, *18*(1), pp. 44–58.

• **Levin, B. A.** Scheduled Wage Increases and Escalator Provisions in 1979. *Mon. Lab. Rev.*, January 1978, *102*(1), pp. 20–25.

McLean, R. A. Interindustry Differences in Strike Activity. *Ind. Relat.*, Winter 1979, *18*(1), pp. 103–09.

Oda, K. Critical Remarks on Wage Bargaining Theories. (In Japanese. With English summary.) *Osaka Econ. Pap.*, December 1978, *28*(2–3), pp. 86–96.

Ponak, A. M. and Thompson, M. Faculty Attitudes and the Scope of Bargaining. *Ind. Relat.*, Winter 1979, *18*(1), pp. 97–102.

833 Labor-Management Relations

Bernard, J.-P. Conflits sociaux et économie industrielle. (Social Conflicts Facing Industrial Economy. With English summary.) *Rev. Econ. Ind.*, 2nd Semester 1978, (4), pp. 5–29.

Bornstein, L. Industrial Relations in 1978: Some Bargaining Highlights. *Mon. Lab. Rev.*, January 1979, *102*(1), pp. 58–64.

Espinosa, J. G. La propiedad y el financiamiento de las empresas en la transicion hacia una democratizacion de la economia. (The Problem of the Ownership and Financing of Enterprises in the Transition towards a Democratization of the Economy. With English summary.) *Economia*, October 1978, *2*(3), pp. 461–89.

Staines, G. L. and Quinn, R. P. American Workers Evaluate the Quality of Their Jobs. *Mon. Lab. Rev.*, January 1978, *102*(1), pp. 3–12.

Volard, S. V. Project 3P—An Experiment in Industrial Democracy in a Small Firm. *Australian J. Manage.*, April 1978, *3*(1), pp. 91–111.

840 Demographic Economics

841 Demographic Economics

Allen, J. Information and Subsequent Migration: Further Analysis and Additional Evidence. *Southern Econ. J.*, April 1979, *45*(4), pp. 1274–84.

Bellacicco, A. Nuovi criteri di misura della mobilità sociale. (New Criteria for Measuring Social Mobility. With English summary.) *Statistica*, October–December 1978, *38*(4), pp. 459–80.

Berelson, B. Prospects and Programs for Fertility Reduction: What? Where? *Population Devel. Rev.*, December 1978, *4*(4), pp. 579–616.

Caldwell, J. C. A Theory of Fertility: From High Plateau to Destabilization. *Population Devel. Rev.*, December 1978, *4*(4), pp. 553–77.

Cebula, R. J. Migration and Welfare Benefit Levels: A Reply. *Kyklos*, 1978, *31*(4), pp. 694.

Chamblee, R. F.; Clifford, W. B. and Mustian, R. D. Validation of an Inferential Approach for the Measurement of Illegitimacy. *Demography*, February 1979, *16*(1), pp. 49–54.

• **De Vany, A. and Sanchez, N.** Land Tenure Structures and Fertility in Mexico. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 67–72.

DeLancey, M. W. Institutions for the Accumulation and Redistribution of Savings among Migrants. *J. Devel. Areas*, January 1978, *12*(2), pp. 209–24.

Demeny, P. On the End of the Population Explosion. *Population Devel. Rev.*, March 1979, *5*(1), pp. 141–62.

Espenshade, T. J. Zero Population Growth and the Economies of Developed Nations. *Population Devel. Rev.*, December 1978, *4*(4), pp. 645–80.

Falaris, E. M. The Determinants of Internal Migration in Peru: An Economic Analysis. *Econ. Develop. Cult. Change*, January 1979, *27*(2), pp. 327–41.

850 Human Capital

851 Human Capital

the Rate of Return Approach. *Rev. Bus. Econ. Res.*, Fall 1978, *14*(1), pp. 74–89.

• **Demetriades, E. I. and Psacharopoulos, G.** Education and Pay Structure in Cyprus. *Int. Lab. Rev.*, January-February 1979, *118*(1), pp. 103–11.

Gay, G. Azienda e scuola: un rapporto difficile dalla parte dell'azienda. (Business and School: A Difficult Relationship—The Business Angle. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 487–91.

Griffiths, G. and Saunders, A. Returns on Investment: A Note on Male and Female Higher Education in the United Kingdom, 1966–1973. *Public Finance Quart.*, January 1979, *7*(1), pp. 110–21.

• **Hill, C. R.** Capacities, Opportunities and Educational Investments: The Case of the High School Dropout. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 9–20.

• **Ito, H. H.** The Effective Wage Rate, Labor Force Participation and the Rate of Return to Investment in Human Capital. *Southern Econ. J.*, April 1979, *45*(4), pp. 1059–71.

Kasnakoğlu, Z. Türkiye'de 1968 gelir dağiliminda nesillerarasi etkileşim üzerine. (A Note on the Intergenerational Transmission of Income in Turkey for 1968. With English summary.) *METU*, Spring 1978, (19), pp. 50–59.

• **Linnerooth, J.** The Value of Human Life: A Review of the Models. *Econ. Inquiry*, January 1979, *17*(1), pp. 52–74.

• **Murray, D.** Sources of Income Inequality in Australia, 1968–69. *Econ. Rec.*, August 1978, *54*(146), pp. 159–69.

• **Psacharopoulos, G. and Tinbergen, J.** On the Explanation of Schooling, Occupation and Earnings: Some Alternative Path Analyses. *De Economist*, 1978, *126*(4), pp. 505–20.

Sandberg, L. G. The Case of the Impoverished Sophisticate: Human Capital and Swedish Economic Growth before World War I. *J. Econ. Hist.*, March 1979, *39*(1), pp. 225–41.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 Welfare, Health, and Education

911 General Welfare Programs

Cebula, R. J. Migration and Welfare Benefit Levels: A Reply. *Kyklos*, 1978, *31*(4), pp. 694.

• **Devens, R. M.** Unemployment among Recipients of Food Stamps and AFDC. *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 47–52.

• **Hausman, J. A. and Wise, D. A.** Attrition Bias in Experimental and Panel Data: The Gary Income Maintenance Experiment. *Econometrica*, March 1979, *47*(2), pp. 455–73.

Kohn, R. Migration and Welfare Benefit Levels: A Comment. *Kyklos*, 1978, *31*(4), pp. 693.

• **Krashinsky, M.** The Cost of Day Care in Public Programs. *Nat. Tax J.*, December 1978, *31*(4), pp. 363–72.

Mattila, J. P. G.I. Bill Benefits and Enrollments: How Did Vietnam Veterans Fare? *Soc. Sci. Quart.*, December 1978, *59*(3), pp. 535–45.

Rauscher, A. The Necessity for, and the Limits of, the Social Welfare State. *Rev. Soc. Econ.*, December 1978, *36*(3), pp. 333–47.

912 Economics of Education

Brown, S. C. Educational Attainment of Workers—Some Trends from 1975 to 1978. *Mon. Lab. Rev.*, February 1979, *102*(2), pp. 54–59.

Fang I. Abstract of a Report on the State of Science and Education Delivered by Comrade Fang I at the Seventh Enlarged Meeting of the Standing Committee of the Fourth National Committee of the Chinese People's Political Consultative Conference. *Chinese Econ. Stud.*, Fall-Winter 1978/79, *12*(1–2), pp. 124–38.

Gay, G. Azienda e scuola: un rapporto difficile dalla parte dell'azienda. (Business and School: A Difficult Relationship—The Business Angle. With English summary.) *L'Impresa*, 1978, *20*(6), pp. 487–91.

• **Hill, C. R.** Capacities, Opportunities and Educational Investments: The Case of the High School Dropout. *Rev. Econ. Statist.*, February 1979, *61*(1), pp. 9–20.

• **Hoenack, S. A. and Weiler, W. C.** The Demand for Higher Education and Institutional Enrollment Forecasting. *Econ. Inquiry*, January 1979, *17*(1), pp. 89–113.

Holmes, A. B. Union Activity and Teacher Salary Structure. *Ind. Relat.*, Winter 1979, *18*(1), pp. 79–85.

Jallade, J.-P. Financing Education for Income Distribution. *Finance Develop.*, March 1979, *16*(1), pp. 33–37.

Kerr, C. Education for Global Perspectives. *Ann. Amer. Acad. Polit. Soc. Sci.*, March 1979, *442*, pp. 109–16.

Mare, R. D. Social Background Composition and Educational Growth. *Demography*, February 1979, *16*(1), pp. 55–71.

Mattila, J. P. G.I. Bill Benefits and Enrollments: How Did Vietnam Veterans Fare? *Soc. Sci. Quart.*, December 1978, *59*(3), pp. 535–45.

McKenzie, R. B. The Economic Basis of Depart-

915 Social Security (Public Superannuation and Survivors Benefits)

Arthur, T. G. Pensions: The Role of the State. *Nat. Westminster Bank Quart. Rev.*, August 1978, pp. 36–46.

Bennett, C. T. F. The Social Security Benefit Structure: Equity Considerations of the Family as Its Basis. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 227–31.

Boskin, M. J. and Hurd, M. D. The Effect of Social Security on Early Retirement. *J. Public Econ.*, December 1978, *10*(3), pp. 361–77.

Copeland, L. S. Mandatory Employment of the Handicapped. *Soc. Sec. Bull.*, February 1979, *42*(2), pp. 23–26, 34.

Coppini, M. A. Social Security and the Redistribution of Income: A New Method and Some Applications Regarding Italy. *Rev. Econ. Cond. Italy*, July 1978, *32*(4), pp. 217–30.

• **Diamond, P. A. and Mirrlees, J. A.** A Model of Social Insurance with Variable Retirement. *J. Public Econ.*, December 1978, *10*(3), pp. 295–336.

Ehrenberg, R. G. Retirement Policies, Employment, and Unemployment. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 131–36.

• **Feldstein, M.** Do Private Pensions Increase National Savings? *J. Public Econ.*, December 1978, *10*(3), pp. 277–93.

Flowers, M. R. Supplemental Benefits for Spouses under Social Security: A Public Choice Explanation of the Law. *Econ. Inquiry*, January 1979, *17*(1), pp. 125–30.

Fox, A. Earnings Replacement Rates of Retired Couples: Findings from the Retirement History Study. *Soc. Sec. Bull.*, January 1979, *42*(1), pp. 17–39.

• **Hamermesh, D. S.** New Estimates of the Incidence of the Payroll Tax. *Southern Econ. J.*, April 1979, *45*(4), pp. 1208–19.

• **Hawkins, S. C. and Rigby, D. E.** Effect of SSI on Medicaid Caseloads and Expenditures. *Soc. Sec. Bull.*, February 1979, *42*(2), pp. 3–14.

Lingg, B. A. Beneficiaries Affected by the Annual Earnings Test in 1975. *Soc. Sec. Bull.*, December 1978, *41*(12), pp. 12–24.

• **Mallan, L. B. and Cox, D.** Older Workers Uninsured for Retired-Worker Benefits. *Soc. Sec. Bull.*, December 1978, *41*(12), pp. 3–11.

Morrison, M. M. Institutionalized SSI Recipients Covered by Medicaid, June 1977. *Soc. Sec. Bull.*, December 1978, *41*(12), pp. 24–30.

Pellechio, A. J. Social Security Financing and Retirement Behavior. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 284–87.

Reinhardt, U. E. Medicare: Its Financing and Future. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 279–83.

Robertson, A. H. The Outlook for Social Security. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 272–74.

Sherman, S. R. Comparison of Aged OASDI and SSI Recipients, 1974. *Soc. Sec. Bull.*, January 1979, *42*(1), pp. 40–44.

Sheshinski, E. A Model of Social Security and Retirement Decisions. *J. Public Econ.*, December 1978, *10*(3), pp. 337–60.

Van de Water, P. N. Disability Insurance. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 275–78.

916 Economics of Crime

Balkin, S. Crime Control as Energy Policy. *Policy Anal.*, Winter 1979, *5*(1), pp. 119–22.

• **Bartel, A. P.** Women and Crime: An Economic Analysis. *Econ. Inquiry*, January 1979, *17*(1), pp. 29–51.

Beenstock, M. Corruption and Development. *World Devel.*, January 1979, *7*(1), pp. 15–24.

Cook, P. J. The Clearance Rate as a Measure of Criminal Justice System Effectiveness. *J. Public Econ.*, February 1979, *11*(1), pp. 135–42.

Stromberg, A. NEPA and the Mexican Marijuana Eradication Program. *Natural Res. J.*, January 1979, *19*(1), pp. 213–16.

917 conomics of Minorities; Economics of Discrimination

Brudney, J. J. The Cost of Growing Old: Business Necessity and the Age Discrimination in Employment Act. *Yale Law J.*, January 1979, *88*(3), pp. 565–95.

Clive, A. Women Workers in World War II: Michigan as a Test Case. *Labor Hist.*, Winter 1979, *20*(1–2), pp. 44–72.

Dowling, G. R. Sex-Role Stereotypes of Women in Australian Magazine Advertising. *Australian J. Manage.*, April 1978, *3*(1), pp. 65–77.

Farley, R.; Bianchi, S. and Colasanto, D. Barriers to the Racial Integration of Neighborhoods: The Detroit Case. *Ann. Amer. Acad. Polit. Soc. Sci.*, January 1979, *441*, pp. 97–113.

• **Gallman, R. E.** Slavery and Southern Economic Growth. *Southern Econ. J.*, April 1979, *45*(4), pp. 1007–22.

Hershberg, T., et al. A Tale of Three Cities: Blacks and Immigrants in Philadelphia: 1850–1880, 1930 and 1970. *Ann. Amer. Acad. Polit. Soc. Sci.*, January 1979, *441*, pp. 55–81.

Kantrowitz, N. Racial and Ethnic Residential Segregation in Boston, 1830–1970. *Ann. Amer. Acad. Polit. Soc. Sci.*, January 1979, *441*, pp. 41–54.

Lake, R. W. Racial Transition and Black Homeownership in American Suburbs. *Ann. Amer.*

920 Consumer Economics

921 Consumer Economics; Levels and Standards of Living

Böhm, B. An Empirical Investigation of Monetary Effects on Private Consumption Expenditures in Austria. *Empirica*, 1978, (2), pp. 159–93.

Clauss, F. J. Spar-Überschüsse und Einkommensverteilung. (Excessive Savings and Income Distribution. With English summary.) *Konjunkturpolitik*, 1978, *24*(5/6), pp. 361–75.

Cobas, J. A. A Method to Estimate the Bureau of Labor Statistics Family Budgets for all Standard Metropolitan Statistical Areas. *Soc. Sci. Quart.*, December 1978, *59*(3), pp. 546–52.

Crafton, S. M. Convenience Store Pricing and the Value of Time: A Note on the Becker-Devany Full Price Model. *Southern Econ. J.*, April 1979, *45*(4), pp. 1254–60.

• **Dániel, Z.** Reflections on the Measurement of Living Standards and Social Welfare. *Acta Oecon.*, 1977, *19*(2), pp. 149–64.

Easton, B. H. A Relationship between Earnings Inequality and Wealth Inequality. *Econ. Rec.*, August 1978, *54*(146), pp. 237–38.

Ellickson, B. Hedonic Theory and the Demand for Cable Television. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 183–89.

Engle, R. F. Estimation of the Price Elasticity of Demand Facing Metropolitan Producers. *J. Urban Econ.*, January 1979, *6*(1), pp. 42–64.

Falush, P. The Changing Pattern of Savings. *Nat. Westminster Bank Quart. Rev.*, August 1978, pp. 47–56.

• **Feldstein, M.** Do Private Pensions Increase National Savings? *J. Public Econ.*, December 1978, *10*(3), pp. 277–93.

Fry, M. J. The Permanent Income Hypothesis in Underdeveloped Economies: Additional Evidence. *J. Devel. Econ.*, December 1978, *5*(4), pp. 399–402.

Granger, C. W. J., et al. Residential Load Curves and Time-of-Day Pricing: An Econometric Analysis. *J. Econometrics*, January 1979, *9*(1/2), pp. 13–32.

Green, R. D.; Hassan, Z. A. and Johnson, S. R. Price Elasticity Estimates from Family Expenditure Data: An Application of the Extended Linear Expenditure System. *Can. J. Agr. Econ.*, February 1979, *27*(1), pp. 41–52.

Heinonen, M. Alkohlijuomien ekonometrinen kulutustutkimus. (An Econometric Study of the Consumption of Alcoholic Beverages. With English summary.) *Kansant. Aikak.*, 1978, *74*(2), pp. 163–74.

Hendricks, W.; Koenker, R. and Poirer, D. J. Residential Demand for Electricity: An Econometric Approach. *J. Econometrics*, January 1979, *9*(1/2), pp. 33–57.

• **Hoch, R.** On the Theoretical Bases of Socialist Consumption Policy. *Acta Oecon.*, 1977, *19*(2), pp. 133–48.

Hodne, F. New Evidence on the History of Tobacco Consumption in Norway, 1665–1970. *Econ. Hist.*, 1978, *21*(2), pp. 114–25.

Hunt, D. Chayanov's Model of Peasant Household Resource Allocation and Its Relevance to Mbere Division, Eastern Kenya. *J. Devel. Stud.*, October 1978, *15*(1), pp. 59–86.

• **Keller, J.** Relationship between the Population's Savings and Income in Hungary. *Acta Oecon.*, 1977, *19*(2), pp. 165–75.

Kossov, V. Consumption-Production Linkages in the USSR. *Int. Lab. Rev.*, January–February 1979, *118*(1), pp. 89–102.

Laakkonen, V. and Laurinkari, J. Evaluation Principles of Cooperative Productivity and Profitability. *Liiketaloudellinen Aikak.*, 1978, *27*(4), pp. 342–52.

Lawrence, A. and Braithwait, S. The Residential Demand for Electricity with Time-of-Day Pricing. *J. Econometrics*, January 1979, *9*(1/2), pp. 59–77.

• **Linnerooth, J.** The Value of Human Life: A Review of the Models. *Econ. Inquiry*, January 1979, *17*(1), pp. 52–74.

Michael, R. T. Variation across Households in the Rate of Inflation. *J. Money, Credit, Banking*, February 1979, *11*(1), pp. 32–46.

• **Moore, B. J.** Life-Cycle Saving and Bequest Behavior. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 79–99.

Pankhurst, I. C. and Roe, P. E. An Empirical Study of Two Shopping Models. *Reg. Stud.*, 1978, *12*(6), pp. 727–48.

• **Pöll, G.** Anspruchsniveau und permanente frustration im verbrauchsverhalten. (With English summary.) *Kyklos*, 1978, *31*(4), pp. 588–600.

Pollan, W. and Tintner, G. The Short-Term Responsiveness of Consumer Expenditures in the Austrian Economy. *Empirica*, 1978, (2), pp. 279–313.

Reece, W. S. Charitable Contributions: New Evidence on Household Behavior. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 142–51.

Reynolds, F. D. and Wells, W. D. Life Style Analysis: A Dimension for Future-Oriented Bank Research. *J. Bank Res.*, Autumn 1978, *9*(3), pp. 181–85.

Schnitzel, P. A Note on the Philatelic Demand for Postage Stamps. *Southern Econ. J.*, April 1979, *45*(4), pp. 1261–65.

Smallwood, D. E. and Conlisk, J. Product Quality in Markets Where Consumers are Imperfectly Informed. *Quart. J. Econ.*, February 1979, *93*(1), pp. 1–23.

Smeral, E. Ein Entscheidungsmodell für Kon-

930 Urban Economics

931 Urban Economics and Public Policy

Harrison, D., Jr. and Rubinfeld, D. L. The Distribution of Benefits from Improvements in Urban Air Quality. *J. Environ. Econ. Manage.*, December 1978, *5*(4), pp. 313–32.

Hirschhorn, L. Toward a National Urban Policy—Critical Reviews: The Urban Crisis: A Post-Industrial Perspective. *J. Reg. Sci.*, February 1979, *19*(1), pp. 109–18.

Hunker, H. L. Population and Employment Change in Ohio in the 1970s. *Ohio State U. Bull. Bus. Res.*, October 1978, *53*(10), pp. 1–7.

Inman, R. P. Toward a National Urban Policy—Critical Reviews: Federal Policy and the Urban Poor. *J. Reg. Sci.*, February 1979, *19*(1), pp. 119–29.

Katznelson, I. Logical Heresies and Theoretical Possibilities. *Soc. Sci. Quart.*, March 1979, *59*(4), pp. 622–27.

Kau, J. B. and Sirmans, C. F. Urban Land Value Functions and the Price Elasticity of Demand for Housing. *J. Urban Econ.*, January 1979, *6*(1), pp. 112–21.

McDermott, P. J. Changing Manufacturing Enterprise in the Metropolitan Environment: The Case of Electronics Firms in London. *Reg. Stud.*, 1978, *12*(5), pp. 541–50.

McDonald, J. F. and Bowman, H. W. Land Value Functions: A Reevaluation. *J. Urban Econ.*, January 1979, *6*(1), pp. 25–41.

McIntyre, R. J. and Thornton, J. R. Urban Design and Energy Utilization: A Comparative Analysis of Soviet Practice. *J. Compar. Econ.*, December 1978, *2*(4), pp. 334–54.

Mills, D. E. Interdependencies and the Urban Land Market. *J. Urban Econ.*, January 1979, *6*(1), pp. 1–11.

• Mulligan, G. F. Additional Properties of a Hierarchical City-Size Model. *J. Reg. Sci.*, February 1979, *19*(1), pp. 57–66.

Murphy, P. E. Preferences and Preceptions of Urban Decision-making Groups: Congruence or Conflict? *Reg. Stud.*, 1978, *12*(6), pp. 749–59.

Myers, S. L., Jr. and Phillips, K. E. Housing Segregation and Black Employment: Another Look at the Ghetto Disperal Strategy. *Amer. Econ. Rev.*, May 1979, *69*(2), pp. 298–302.

Newacheck, P. W. Capitalization: The Price of School Finance Reform. *Policy Anal.*, Winter 1979, *5*(1), pp. 21–36.

O'Loughlin, J. and Munski, D. C. Housing Rehabilitation in the Inner City: A Comparison of Two Neighborhoods in New Orleans. *Econ. Geogr.*, January 1979, *55*(1), pp. 52–70.

Pettigrew, T. F. Racial Change and Social Policy. *Ann. Amer. Acad. Polit. Soc. Sci.*, January 1979, *441*, pp. 114–31.

Piasentin, U.; Costa, P. and Foot, D. The Venice Problem: An Approach by Urban Modelling. *Reg. Stud.*, 1978, *12*(5), pp. 579–602.

• Richter, D. K. The Computation of Urban Land Use Equilibria. *J. Econ. Theory*, October 1978, *19*(1), pp. 1–27.

• Rosser, J. B., Jr. The Theory of Policy Implications of Spatial Discontinuities in Land Values. *Land Econ.*, November 1978, *54*(4), pp. 430–41.

Simmie, J. M. and Hale, D. J. Urban Self-management in Yugoslavia. *Reg. Stud.*, 1978, *12*(6), pp. 701–11.

Simmons, A. B. Slowing Metropolitan City Growth in Asia: Policies, Programs, and Results. *Population Devel. Rev.*, March 1979, *5*(1), pp. 87–104.

Spiller, H. The Promotion of Housing Construction in GDR Towns and Communities by the State Financial System. *Bull. Int. Fiscal Doc.*, 1979, *33*(2), pp. 61–64.

Stefani, G. La finanza dei governi locali e delle aree metropolitane giapponesi. (The Finance of Local Governments and of Metropolitan Areas in Japan. With English summary.) *Giorn. Econ.*, September–October 1978, *37*(9–10), pp. 549–78.

Steinmüller, H. Intra-Urban Wage Differentials and Housing. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 397–404.

Valadares Tavares, L. and Oliveira, R. C. Estratégias locaionais na expansão urbana: Um contributo para a análise de custos. (Locational Strategy for Urban Developments: Costs Analysis. With English summary.) *Economia*, October 1978, *2*(3), pp. 437–60.

Vining, D. R., Jr. Towards a National Urban Policy—Critical Reviews: The President's National Urban Policy Report: Issues Skirted and Statistics Omitted. *J. Reg. Sci.*, February 1979, *19*(1), pp. 69–77.

Wengert, N. Constitutional Principles Applied to Land Use Planning and Regulation: A Tentative Restatement. *Natural Res. J.*, January 1979, *19*(1), pp. 1–20.

White, A. N. Accessibility and Public Facility Location. *Econ. Geogr.*, January 1979, *55*(1), pp. 18–35.

932 Housing Economics

Charles, S. Do We Need a Housing Policy? *Nat. Westminster Bank Quart. Rev.*, August 1978, pp. 57–64.

Eubank, A. A., Jr. and Sirmans, C. F. The Price Adjustment Mechanism for Rental Housing in the United States. *Quart. J. Econ.*, February 1979, *93*(1), pp. 163–68.

Farebrother, R. W. A Grouping Test for Misspeci-

fication. *Econometrica,* January 1979, *47*(1), pp. 209–10.

• **Giertz, J. F. and Sullivan, D. H.** Housing Tenure and Horizontal Equity. *Nat. Tax J.,* December 1978, *31*(4), pp. 329–38.

• **Hanushek, E. A. and Quigley, J. M.** An Explicit Model of Intra-Metropolitan Mobility. *Land Econ.,* November 1978, *54*(4), pp. 411–29.

Hanushek, E. A. and Quigley, J. M. The Dynamics of the Housing Market: A Stock Adjustment Model of Housing Consumption. *J. Urban Econ.,* January 1979, *6*(1), pp. 90–111.

Hjorth-Andersen, C. Road Noise and Property Values—Some Evidence from the Copenhagen Area. *Scand. J. Econ.,* 1978, *80*(4), pp. 454–60.

Jones, C. Household Movement, Filtering and Trading up within the Owner Occupied Sector. *Reg. Stud.,* 1978, *12*(5), pp. 551–61.

Kantrowitz, N. Racial and Ethnic Residential Segregation in Boston, 1830–1970. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 41–54.

Kau, J. B. and Sirmans, C. F. Urban Land Value Functions and the Price Elasticity of Demand for Housing. *J. Urban Econ.,* January 1979, *6*(1), pp. 112–21.

• **Lakatos, M.** Housing and the Ways of Obtaining a Flat in Four Countries. *Acta Oecon.,* 1977, *19*(2), pp. 177–89.

Lake, R. W. Racial Transition and Black Homeownership in American Suburbs. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 142–56.

• **Maclennan, D.** Information Networks in a Local Housing Market. *Scot. J. Polit. Econ.,* February 1979, *26*(1), pp. 73–88.

Marston, W. G. and Van Valey, T. L. The Role of Residential Segregation in the Assimilation Process. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 13–25.

Mateus, A. M. Investimento em casas dc habitação: Políticas de rendas e de crédito. (A Model for Investment in Housing: Rent and Credit Policies. With English summary.) *Economia,* October 1978, *2*(3), pp. 407–36.

Mitchell, R. E. and Smith, R. A. Race and Housing: A Review and Comments on the Contents and Effects of Federal Policy. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 168–85.

O'Loughlin, J. and Munski, D. C. Housing Rehabilitation in the Inner City: A Comparison of Two Neighborhoods in New Orleans. *Econ. Geogr.,* January 1979, *55*(1), pp. 52–70.

Oliveria, R. A. Combining Forecasts to Predict Property Values for Single-Family Residences: Comment. *Land Econ.,* November 1978, *54*(4), pp. 524–27.

linsky, A. M. The Demand for Housing: An Empirical Postscript. *Econometrica,* March 1979, *47*(2), pp. 521–23.

• **Richards, P. J.** Housing and Employment. *Int. Lab. Rev.,* January–February 1979, *118*(1), pp. 13–26.

Roof, W. C. Race and Residence: The Shifting Basis of American Race Relations. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 1–12.

• **Rosen, H. S.** Housing Decisions and the U.S. Income Tax: An Econometric Analysis. *J. Public Econ.,* February 1979, *11*(1), pp. 1–23.

Saltman, J. Housing Discrimination: Policy Research, Methods and Results. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 186–96.

Seiders, D. F. Recent Developments in Mortgage and Housing Markets. *Fed. Res. Bull.,* March 1979, *65*(3), pp. 173–84.

Spain, D. Race Relations and Residential Segregation in New Orleans: Two Centuries of Paradox. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 82–96.

Spiller, H. The Promotion of Housing Construction in GDR Towns and Communities by the State Financial System. *Bull. Int. Fiscal Doc.,* 1979, *33*(2), pp. 61–64.

Steinmüller, H. Intra-Urban Wage Differentials and Housing. *Z. Nationalökon.,* 1978, *38*(3–4), pp. 397–404.

Taylor, D. G. Housing, Neighborhoods, and Race Relations: Recent Survey Evidence. *Ann. Amer. Acad. Polit. Soc. Sci.,* January 1979, *441*, pp. 26–40.

Valadares Tavares, L. and Oliveira, R. C. Estratégias locaionais na expansão urbana: Um contributo para a análise de custos. (Locational Strategy for Urban Developments: Costs Analysis. With English summary.) *Economia,* October 1978, *2*(3), pp. 437–60.

Weinberg, D. H. Further Evidence on Racial Discrimination in Home Purchase. *Land Econ.,* November 1978, *54*(4), pp. 505–13.

Wood, S. D. Combining Forecasts to Predict Property Values for Single-Family Residences: Reply. *Land Econ.,* November 1978, *54*(4), pp. 528–30.

933 Urban Transportation Economics

• **Abe, M. A.** Reciprocal Consumption Externalities in Urban Transportation: Problems of Optimal Tolls and Investment. *Econ. Stud. Quart.,* December 1978, *29*(3), pp. 248–58.

Madre, J.-L. Les effets redistributifs des finances publiques dans le domaine des transports urbains. (The Redistributive Effects of Public

Funds on Urban Transports. With English summary.) *Consommation,* July–September 1978, *25*(3), pp. 101–17.

940 Regional Economics

941 Regional Economics

Abumere, S. I. Multinationals, Location Theory and Regional Development: Case Study of Bendel State of Nigeria. *Reg. Stud.,* 1978, *12*(6), pp. 651–64.

• **Anderson, J. E.** A Theoretical Foundation for the Gravity Equation. *Amer. Econ. Rev.,* March 1979, *69*(1), pp. 106–16.

Bearse, P. J. On the Intra-Regional Diffusion of Business Services Activity. *Reg. Stud.,* 1978, *12*(5), pp. 563–78.

• **Blaug, M.** The German Hegemony of Location Theory: A Puzzle in the History of Economic Thought. *Hist. Polit. Econ.,* Spring 1979, *11*(1), pp. 21–29.

Brower, D. J. and Pannabecker, J. H. Growth Management Update: An Assessment and Status Report. *Natural Res. J.,* January 1979, *19*(1), pp. 161–81.

Browne, L. E. and Syron, R. F. Cities, Suburbs and Regions. *New Eng. Econ. Rev.,* January/February 1979, pp. 41–61.

Christopherson, D. A. A Status Group Dynamics Approach to Predicting Participation Rates in Regional Recreation Demand Studies: Comment. *Land Econ.,* November 1978, *54*(4), pp. 520–21.

Cloke, P. J. Changing Patterns of Urbanisation in Rural Areas of England and Wales, 1961-1971. *Reg. Stud.,* 1978, *12*(5), pp. 603–17.

De Rooy, J. Productivity of Social Overhead Capital: North-South Comparisons. *Rev. Bus. Econ. Res.,* Fall 1978, *14*(1), pp. 44–60.

Deiss, J. The Regional Adjustment Process and Regional Monetary Policy. *Rivista Int. Sci. Econ. Com.,* October 1978, *25*(10), pp. 858–77.

Elias, D. P. B. Regional Unemployment Elasticities: Migration or Registration? *Scot. J. Polit. Econ.,* February 1979, *26*(1), pp. 103–06.

Gordon, I. Regional Unemployment Elasticities: The Neglected Role of Migration. *Scot. J. Polit. Econ.,* February 1979, *26*(1), pp. 97–101.

Hansen, N. Does the South Have a Stake in Northern Urban Poverty? *Southern Econ. J.,* April 1979, *45*(4), pp. 1220–24.

Hartwick, J. M. Optimal Scale in a Large Homogeneous Area. *J. Urban Econ.,* January 1979, *6*(1), pp. 12–24.

Hunker, H. L. Population and Employment Change in Ohio in the 1970s. *Ohio State U. Bull. Bus. Res.,* October 1978, *53*(10), pp. 1–7.

• **Latham, W. R.; Lewis, K. A. and Landon, J. H.** Regional Econometric Models: Specification and Simulation of a Quarterly Alternative for Small Regions. *J. Reg. Sci.,* February 1979, *19*(1), pp. 1–13.

Long, N. V. Optimal Inter-Regional Movements of Labour: A Theoretical Model. *Australian Econ. Pap.,* December 1978, *17*(31), pp. 290–302.

Longbrake, W. A. and Peterson, M. O. Regional and Intra-Regional Variations in Mortgage Loan Rates. *J. Econ. Bus.,* Winter 1979, *31*(2), pp. 75–83.

Mayer, J. Spatial Aspects of Basic-Needs Strategy: The Distribution of Essential Services. *Int. Lab. Rev.,* January–February 1979, *118*(1), pp. 59–74.

Miller, R. J. The Dynamic Properties of a Two Region Model of the Regional Impact of Monetary Policy in the United States. *J. Econ. Bus.,* Winter 1979, *31*(2), pp. 90–102.

• **Mulligan, G. F.** Additional Properties of a Hierarchical City-Size Model. *J. Reg. Sci.,* February 1979, *19*(1), pp. 57–66.

• **Murdock, S. H.; Wieland, J. S. and Leistritz, F. L.** An Assessment of the Validity of the Gravity Model for Predicting Community Settlement Patterns in Rural Energy-Impacted Areas of the West. *Land Econ.,* November 1978, *54*(4), pp. 461–71.

Pedersen, P. O. Interaction between Short- and Long-run Development in Regions—The Case of Denmark. *Reg. Stud.,* 1978, *12*(6), pp. 683–700.

Poirier, J.-E. Allocation of Money Amounts to a Regional Public Goods Project Involving Water Quality. *Écon. Soc.,* June–July 1978, *12*(6–7), pp. 1121–50.

• **Powell, R. A. and Mandeville, T. D.** Analysis of Sector Interactions and Stability in a Rural Region of NSW. *Econ. Rec.,* August 1978, *54*(146), pp. 239–55.

Roberts, C. A. Interregional Per Capita Income Differentials and Convergence: 1880–1950. *J. Econ. Hist.,* March 1979, *39*(1), pp. 101–12.

• **Roberts, R. B. and Fishkind, H.** The Role of Monetary Forces in Regional Economic Activity: An Econometric Simulation Analysis. *J. Reg. Sci.,* February 1979, *19*(1), pp. 15–29.

Rose, A.; Edmunds, S. and Lofting, E. The Economics of Geothermal Energy Development at the Regional Level. *J. Energy Devel.,* Autumn 1978, *4*(1), pp. 126–52.

Short, J. The Regional Distribution of Public Expenditure in Great Britain, 1969/70–1973/74. *Reg. Stud.,* 1978, *12*(5), pp. 499–510.

• **Smith, T. R.** Migration, Risk Aversion, and Re-

Selected Abstracts

Editor's Note

These abstracts are prepared by the author of each article. Each journal editor, where we have an abstracting agreement, is responsible for instructing the author according to our style sheet. These editors are responsible, additionally, for sending these abstracts to the *Journal of Economic Literature*. Only a minimal amount of copy editing is done on these abstracts; thus the reader should turn to the author of the abstract and not this journal if an error of fact or phrasing arises.

NOTE: the limit of 100 words for abstracts remains in effect.

000 General Economics; Theory; History; Systems

010 General Economics

011 General Economics

Borchardt, K.—Wissenschaftliche Literatur als Medium wissenschaftlichen Fortschritts (Scientific Publications as Media of Scientific Progress)

This essay has been delivered at the celebration of the 100th birthday of the publishing house Gustav Fischer, Stuttgart/New York. It deals with the development of the media of our scientific communications network, the peculiarities of scientific publishing, and some critical questions of regulation in this field of social activity. *Jahr. Nationalökon. Statist.*, Dec. 1978, *193*(6), pp. 481–99 (German). University of München.

Stigler, G. J. and Friedland, C.—The Pattern of Citation Practices in Economics

A detailed analysis is made of the citation practices of economists in their journal articles from 1886 through 1968. Among the topics studied are the relationship of publications of books to that of articles (articles have increased greatly), the (weak) relationship of frequency of citation to volume of publications, the trade-off between books and articles, and the now nearly complete dominance of economics by English. Most frequently-cited economists are listed for 1886–1925 and 1925–1969, and special attention is given to self-citation. *Hist. Polit. Econ.*, Spring, 1979, *11*(1), pp. 1–20. University of Chicago.

020 General Economic Theory

Hasenkamp, G. and Schrader, J.—Dual Polar Price and Quantity Aggregation

Symmetric to quantity aggregation is price aggregation. We argue that these two aggregation problems are just mirror (dual) problems of each other. We present the approach of exact price aggregation by using the concept of concave gauge functions and their polar functions. Here the gauge function is obtained from the homothetic quasi-concave "utility function" via an (order-preserving) monotonic transformation. Besides of leading to a concise discussion on aggregation, one main advantage from a theoretical point of view is that we need only the assumption of a continuous utility function—*i.e.*, differentiability is *not* needed! The rather restrictive requirement of homotheticity will be relaxed to the affin homothetic case. In this respect, and also by distinguishing between price conditional and quantity conditional aggregation, we generalize on earlier discussions on this aspect of aggregation. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 305–22. University of Bonn.

Shapiro, N.—Keynes and Equilibrium Economics

The focus of this essay is Keynes's break with the equilibrium method, his introduction of uncertainty and expectations into the theory of production. The conception of production that underlies this introduction is examined as well as the conceptual underpinnings of the equilibrium methodology. It is argued that Keynes's break with this methodology is, at

least implicitly, a break with the neoclassical notion of capital and capitalist production, and that the completion of Keynes's break requires a return to the Marxian notion. *Australian Econ. Pap.,* Dec. 1978, *17*(31), pp. 207–23. Merrimack College, North Andover, Massachusetts.

Somermeyer, W. H. and van Daal, J.—Consistent Aggregation—An Alternative Derivation and a Generalization of Nataf's Theorem

A. Nataf's theorem on consistent aggregation of micro-relationships—requiring separability—is reconsidered with a view to: (a) streamlining the derivation of the theorem beyond the stage carried through by H. A. J. Green; (b) relaxing some of the conditions formerly required for that purpose, in particular, the differentiability of the functions; (c) generalizing the originally "single-output," two-dimensional aggregation theorem to multiple outputs and to three (and more) dimensions. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 287–303. Erasmus University, Rotterdam.

Tichy, G. E.—Die Allgemeine Theorie der Wirtschaftspolitik und die Neue Politische Ökonomie (General Theory of Economic Policy and the "New Political Economy")

The "New Political Economy" is being partly regarded as an answer to rising criticism that traditional economic theory and policy provides few, if any, conclusive solutions to current economic problems. Thus the New Political Economy can also be seen foremost as a reaction to the failure of traditional theory to come to grips with the role of the state as an important decision-making power and economic factor of its own. It remains doubtful whether a truly "new" political economy need not be conceived as starting from propositions going beyond basic classical assumptions. *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 289–307. (German). Institute for Political Economy, Vienna.

021 General Equilibrium Theory

Grandmont, J.-M.; Laroque, G. and Younès, Y.—Equilibrium with Quantity Rationing and Recontracting

The paper sheds some light on the negotiating processes underlying the equilibrium concept with quantity rationing, which was used recently to study in particular the microeconomic foundations of the theory of employment (*K*-equilibria). It is postulated that prices are given and that negotiations take place market by market owing to the role of money in the exchange process. Any coalition can form when trying to improve upon a given allocation, but takes into account possible retaliation of the complementary coalition. It is shown that in large economies, the set of *K*-equilibria is the only stable outcome of this bargaining process. *J. Econ. Theory,* Oct. 1978, *19*(1), pp. 84–102. CEPREMAP, Paris; *Departement de la Recherche,* INSEE, Paris; CEPREMAP, Paris.

Grossman, S. J. and Hart, O. D.—Theory of Competitive Equilibrium in Stock Market Economies

In an economy with incomplete markets, profit maximization is not well defined. We propose an objective for firms to pursue that generalizes profit maximization. We show that if votes are tradable for current income, and if shareholders have what we call competitive perceptions concerning the effect of a change in production plan on share prices, then each firm will maximize a weighted sum of shareholders' private valuations of the firm's production plan, where the weights are the initial shareholdings. The existence of a competitive equilibrium in which firms pursue this proposed objective is proved, and its optimality properties are characterized. *Econometrica,* March 1979, *47*(2), pp. 293–329. University of Pennsylvania; Churchill College, University of Cambridge.

022 Microeconomic Theory

Boyd, J. W.—Transaction Risk and Bidding Behavior

This paper analyzes a model of consumer behavior where transaction risk in the form of a divergence between bid and executed demand is incorporated into the consumer's decision process. A neutral assumption concerning risk preferences, combined with income and expenditure constraints, is shown to be suffi-

cient to generate behavior commonly associated with risk aversion. Such responses to transaction risk are referred to as objective reactions as opposed to subjective attitudes toward risk. The income effect is shown to play an important role in determining behavioral reactions to this type of risk. *Econ. Inquiry*, Jan. 1979, *17*(1), pp. 75–88. Electric Power Research Institute, Palo Alto, California.

von Delhaes, K.—Transparenz, Reaktionsgeschwindigkeit und Verhaltensweise: Eine Modellanalyse zum Ablauf von Informations und Lernprozessen auf homogenen Märkten (Transparency, Speed of Adjustment and Market Conduct: Processes of Dispersion and Evaluation of Information in Homogeneous Markets, Analysed within a Simple Sequential Model)

Perfect competition requires polypolistic conduct in homogeneous markets. Such conduct, however, seems inconsistent with the further requirements of perfect transparency and infinite speed of adjustment. Using a strongly simplifying model of the process of competitive challenge and response, this paper gives formal treatment to the fact, that in nonorganized polypolistic and homogeneous markets only deviations from the requirements last mentioned lead to results that approximate the solution under perfect competition. Working on the presumption that the distribution of demand is purely stochastic, transparency, restraints on capacity, speed of reaction, and level of experience are isolated as elements of market structure. *Jahr. Nationalökon. Statist.*, Dec. 1978, *193*(6), pp. 522–44 (German). Philipps University, Marburg, Federal Republic of Germany.

Färe, R. and Lovell, C. A. K.—Measuring the Technical Efficiency of Production

Consider a firm using many inputs to produce a single output. M. J. Farrell proposed two radial measures of the technical efficiency with which the firm transforms inputs into output. We show that these two measures are equivalent if and only if constant returns to scale prevail, and we demonstrate difficulties with both measures in the absence of quasiconcavity and strong free disposability. We then specify a set of properties any measure of technical efficiency should satisfy and propose a nonradial generalization of one of Farrell's measures that satisfies these properties. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 150–62. Southern Illinois University, Carbondale; University of North Carolina, Chapel Hill.

Friedman, J. W.—Non-Cooperative Equilibria for Exit Supergames

In this paper a supergame (*i.e.*, a multi-period game) model is formulated in which each player has the option of participating, or not, during any or all time periods. This contrasts with usual games in which the set of players is given and all must participate. Existence of equilibrium is proved. Additional results are undoubtedly obtainable for some interesting specialized forms of the model. The formulation and results should have application to the partial equilibrium study of individual markets. That is, to the question of entry into and exit from oligopolistic markets. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 147–56. University of Rochester, Rochester, New York.

Fujimoto, T. — Exploitation, Profits and Growth: A Disequilibrium Analysis

The Fundamental Marxian Theorem, according to M. Morishima, F. Seton, and N. Okishio, is discussed using a general von Neumann model economy in disequilibrium. No specific assumptions are made concerning consumers' choice and technological progress. The definitions of the social average rate of profit and of growth are first given. And it is shown that the positiveness of the social average rate of profit does not necessarily imply the existence of exploitation, while exploitation exists if the social average rate of growth is positive. The concept of socially necessary labor is also examined. *Econ. Stud. Quart.*, Dec. 1978, *29*(3), pp. 268–75. University of Kagawa, Takamatsu, Japan.

Gerard-Varet, L. A. and Moulin, H.—Correlation and Duopoly

Correlated equilibria are equilibria of the Nash type where information about joint stra-

tegies is distributed to the players according to a specific rule. They are presently used for modeling tacit coordination in oligopoly contexts. More specifically, we characterize the class of duopoly games where the Nash-Cournot equilibrium is locally improved upon by a correlated equilibrium. It results in a classification of duopoly models according to the effectiveness of tacit cooperation. The classification relies upon measure of strategic interdependencies in terms of cost and demand parameters. *J. Econ. Theory,* Oct. 1978, *19*(1), pp. 123–49. University of Aix-Marseille II, Lumigny, France; University of Paris IX Dauphine.

Greenhut, M. L. and Ohta, H.—Vertical Integration of Successive Oligopolists

This paper considers vertically related stages of production (with fixed input proportions), which are horizontally characterized by oligopolistic conditions. The paper shows that vertical integration of firms in successive stages increases industry outputs and lowers the final good price. The welfare gain is shown to hold not only under Cournot oligopoly but also a Stackelberg "leader-follower" type of oligopoly. The paper also discusses the relationship between individual firms' incentives for integration and the *ex post* industry profit after vertical integration. *Amer. Econ. Rev.,* March 1979, *79*(1), pp. 137–41. Texas A & M University, College Station, Aoyama Gakuin University, Tokyo.

Kornai, J. and Weibull, J. W.—The Normal State of the Market in a Shortage Economy: A Queue Model

The subject of this study is an economy characterized by chronic shortage and queuing. The paper elaborates a very simple model for a single good, primarily intended as an illustration of an analytical framework for studies of shortage phenomena. Our main concern is to describe a market that is away from Walrasian equilibrium, and nevertheless in a stationary state, permanently restoring its basic properties. Central concepts in our analysis are such non-financial costs of shortage as queuing time, postponement of purchase, and forced substitution. *Scand. J. Econ.,* 1978, *80*(4), pp. 375–98. Hungarian Academy of Sciences, Budapest; Royal Institute of Technology, Stockholm.

Kreps, D. M. and Porteus, E. L.—Dynamic Choice Theory and Dynamic Programming

Finite horizon sequential decision problems with "temporal von Neumann-Morgenstern utility" criteria are analyzed. These criteria enable one to take into account an individual's preference for earlier or later resolution of uncertainty. In such problems, value functions can be defined by a dynamic programming recursion using the functions that represent the original preferences. These value functions represent preferences defined on strategies for the decision problem. This permits citation of standard results from the dynamic programming literature concerning the existence of (memoryless) strategies that are optimal with respect to the given preferences. *Econometrica,* Jan. 1979, *47*(1), pp. 91–100. Stanford University.

Levin, R. C.—Technical Change, Barriers to Entry, and Market Structure

Since entry barriers based on scale economies tend to erode in a growing market and absolute cost advantages based on superior technology diminish as knowledge diffuses, the maintenance of entry barriers requires continuing technical change to both reduce cost and extend the range of scale economies. The model developed here derives conditions under which entry barriers may or may not be successfully maintained. The dynamics of the model hinge upon the interaction among price and income elasticities of demand, the innovation possibility set facing firms in the industry, and the growth rate of the economy as a whole. *Economica,* Nov. 1978, *45*(180), pp. 347–61. Yale University.

Markandya, A.—The Quality of Current Approximations to the Measurement of Compensation Costs

The Measurement of Compensating Variation, when data is given on the price and income elasticity of a good, as well as its budget share, is examined here. The exact measure is calculated when a utility function is specified

and the sensitivity of the measure to the specification is reported. Various approximations that do not require knowledge of the utility function are also tried and compared. Some conclusions are offered as to the relative accuracies of various procedures. *Oxford Econ. Pap.*, Nov. 1978, *30*(3), pp. 423–33. University College, London.

McDonald, I. M.—Microeconomic Motivation and the Kaldorian Theory of the Rate of Profit

It is shown in this paper that Nicholas Kaldor's definition of the rate of profit can require entrepreneurs to value labor at less than its opportunity cost. This undervaluation is not only inconsistent with assuming that entrepreneurs are motivated to maximize profits but also does not accord well with Kaldor's own description of the role of the rate of profit in the entrepreneur's investment decision. If labor is valued at its opportunity cost then, at full employment, the rate of profit and the payback period of new investment goods are independent of the level of aggregate demand, even though the share of profits behaves in the usual way. The rate of profit is positively affected by variations in aggregate demand at less than full employment positions only if the marginal product of labor declines as output rises. *Australian Econ. Pap.*, Dec. 1978, *17*(31), pp. 276–89. University of Melbourne, Parkville, Victoria.

Meyer, R. A.—Regulated Monopoly under Uncertainty

This paper analyzes the behavior of a rate of return constrained monopolist under uncertainty. Both quantity setting and price setting decisions are analyzed. Using a series of approximations, comparative statics results are obtained for the effect on output, price, and capital usage with respect to changes in the allowed rate of return and a measure of the firm's risk aversion. One of the key conclusions is that risk aversion induces a bias opposite from the Averch-Johnson (A-J) effect, thus mitigating input distortions arising from rate of return regulation. *Southern Econ. J.*, April 1979, *45*(4), pp. 1121–29. University of California, Berkeley.

Muzondo, T. R.—The Corporation Income Tax and Depreciation Policy in the Short-Run

The paper examines the short-run response of a competitive firm to changes in the rate of the corporation income tax and depreciation policy. The firm is assumed to incur adjustment costs when it expands its capital and maximizes the present value of after tax profits. The short-run is viewed as a period in which capital changes at a rate determined by the optimizing process. It is shown that the firm's short-run response to changes in tax and depreciation policies depends on the effects of such changes on the long-run demand for capital and on the nature of adjustment costs. *Can. J. Econ.*, Feb. 1979, *12*(1), pp. 15–28. Queen's University, Kingston, Ontario.

Nermuth, M.—Equilibrium in Markets with Imperfect Information

In this paper we use the concept of "information structure" as a stochastic transformation of (true) states into signals. In a market with *n* sellers (firms) and many buyers (households), the latter have to decide from whom to buy on the basis of imperfect information about the different sellers' offers. Equilibrium configurations in a number of idealized markets are determined and their dependence on the information structure and consumers' behavior (decision rules) is made explicit. Among other things it is shown how various kinds of asymmetries may lead to price dispersion or even to nonexistence of equilibrium. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 209–30. University of Vienna.

Reid, G. C.—An Analysis of the Firm, Market Structure and Technical Progress

The scheme proposed by P. W. S. Andrews for developing a reconstructed theory of the firm is followed. A model is constructed of an oligopolistic industry in which technical progress is led by a firm that is following an aggressive pricing policy. The main assumption is that prices are determined on a cost-plus basis. Technical progress takes the form of a reduction in unit direct cost and an extension of capacity. Followers always operate later vintages than the aggressive price leader. The consequences of the assumptions for the profit rate,

concentration, *etc.*, are developed. *Scot. J. Polit. Econ.*, Feb. 1979, *26*(1), pp. 15–32. University of Edinburgh.

Rossman, M. and Selden, L.—Time Preferences, Conditional Risk Preferences, and Two-Period Cardinal Utility

This paper is concerned with representing preferences over two-period certain-uncertain consumption plans. Assuming that a two-period expected utility exists, we state when and how it can be constructed from an ordinal representation of time preferences and a single conditional expected second-period utility. Examples of fundamental incompatibilities between time preferences and conditional risk preferences are presented. We further establish that an ordinal time preference function and a complete set of conditional second-period von Neumannn–Morgenstern utilities imply a two-period expected utility function if and only if an additional axiom, referred to as "coherence," is introduced. Finally, two-period expected utility is related to the ordinal certainty equivalent (OCE) representation hypothesis. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 64–83. Berkeley, California; Columbia University.

Schefold, B.—On Counting Equations

Balanced growth with joint production under golden rule conditions can either be analyzed in von Neumann-type models with inequalities or in Sraffa-type models with equalities and with an identical number of commodities produced and industries used in the systems. Both approaches are here shown to be mathematically equivalent except for exceptional cases of measure zero. Theorems on uniqueness of solutions, extra profits in transitions and superiority of processes, limits to "nonsubstitution," uniqueness of systems yielding a given vector of prices ("factor price equalization"), truncation, and "phantom commodities" are also proven. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 253–85. University of Frankfurt.

Sengupta, J. K.—Noncooperative Equilibria in Monopolistic Competition under Uncertainty

A class of models of monopolistic competition under uncertainty is analyzed here leading to Cournot-Volterra systems in a linear form. It is shown that such systems are not ordinarily stable under a quadratic risk preference function for each firm unless special conditions are satisfied. An analysis of these conditions is attempted here. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 193–208. University of California, Santa Barbara.

Ulph, A. M. and Reynolds, I. K.—An Activities Model of Consumer Behaviour with Special Reference to Outdoor Recreation

Past evaluations of recreation using travel costs have suffered from differences in approach leading to inconsistent results. An activities model of consumer behavior is specified within which a consistent travel cost methodology is developed. Several past studies are evaluated within this framework. Difficulties with the travel cost model are discussed, notably the treatment of time, multiple visits on the one trip, and data aggregation problems. The appropriate measure of recreation benefits is discussed and the importance of using compensated demand curves is stressed. When considering new recreation areas, the methodology should be based on characteristics of activities, not simply activities. *Scot. J. Polit. Econ.*, Feb. 1979, *26*(1), pp. 33–60. Centre for Resource and Environmental Studies, Australian National University, Canberra.

Wu, S. Y.—An Essay on Monopoly Power and Stable Price Policy

This paper proposes a generalized stable price model for a firm with monopoly power. The underlying assumptions are: (i) decision makers are risk averse, and (ii) *ex ante* decision does affect the firm's *ex post* market conditions. The major result is that shifting price determination from *after* to *before* the realization of the random event and adopting a stable price policy may improve the distribution underlying the seller's demand function, and raises his expected utility of profit. It is uncertainty, risk aversion, and opportunity profit foregone by following a flexible price policy that lead sellers to adopt a stable price policy. *Amer. Econ. Rev.*,

March 1979, *69*(1) pp. 60–72. University of Iowa, Iowa City.

Ylä-Liedenpohja, J.—Taxes, Dividends and Capital Gains in the Adjustment Cost Model of the Firm

This paper analyzes the shareholders' wealth-maximizing model of the firm, which assumes taxation, perfect financial markets, and the cost of adjustment on the investment side. The firm's growth path is shown to consist of three separate phases, which describe the mutual behavior of dividends and capital gains. An analysis of the effects of tax parameter changes emphasizes the need to distinguish between firms whose growth is constrained financially and those whose growth is constrained by profitability. *Scand. J. Econ.*, 1978, *80*(4), pp. 399–410. Vaasa School of Economics and Business Administration, Vaasa, Finland.

Zweifel, P.—Die Translog-Näherung einer beliegigen Transformationskurve: Darstellung und Kritik (The Translog Approximation to an Arbitrary Production Frontier: A Critical Guide)

The article explains the rationale of the Translog approximation and develops a unifying approach for the derivation of the constraints stemming from the usual assumptions of production theory., At the same time, some basic weaknesses of existing empirical applications are pointed out, which cast doubt on the validity of the testing sequences presented by L. R. Christensen, D. W. Jorgenson, and L. J. Lau (1973) and others working in the same vein. Therefore, no verdict can as yet be given regarding the appropriateness of traditional CES-type production functions. *Jahr. Nationalökon. Statist.*, Oct. 1978, *193*(5), pp. 449–72 (German). *Institut für empirische Wirtschaftsforschung*, University of Zurich.

023 Macroeconomic Theory

Bigman, D.—Technical Change, Distributive Shares and Aggregation

The paper develops the structural equations for deriving the changes over time in factor intensities, factor prices, and relative shares in a multifactor model. The concept of "neutrality" of technical change is generalized to include the various possible interrelations between the elementary inputs. Conditions for neutrality are determined. Finally, the paper examines the underlying conditions on the structural form of the multifactor production function and on the parameters that define the time pattern of production and technical change, which permit the use of capital and labor aggregates in classifying technical change as "capital saving," "neutral" or "labor saving." *Oxford Econ. Pap.*, Nov. 1978, *30*(3) pp. 434–46. Johns Hopkins University.

Evans, J. L. and Yarrow, G. K.—Adaptive and Rational Expectations in Macroeconomic Models

Contrary to a commonly made assumption, it is shown that for continuous, deterministic, macroeconomic models in which inflation expectations are generated by a first-order adaptive process increasing the speed of expectations adjustment without limit does not, in general, lead to the disappearance of unanticipated inflation. The result is illustrated in two *IS-LM* systems, where it is found that the qualitative features of the time path of unanticipated inflation are highly sensitive to parameter values and equation specification. It is concluded that in this type of model rapid error learning cannot necessarily be assumed to approximate rational expectations. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 24–32. University of Durham, England; Hertford College, University of Oxford.

Karni, Edi—On the Specification of Asset Equilibrium in Macroeconomic Models: A Note

This paper describes two alternative institutional setups for trading in assets and goods. One setup corresponds to a "beginning-of-period" asset equilibrium specification; the other suggests both beginning and end-of-period equilibrium. It is shown that (a) each model is internally consistent, and the two models are consistent with one another; (b) the two models abide by Walras' Law and in neither of them is there a need for a separate "balance-sheet constraint"; (c) the continuous time version of the two models is well defined. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 171–77. University of Chicago.

Moore, B. J.—Life-Cycle Saving and Bequest Behavior

The paper argues that life-cycle saving models omit an important relationship concerning differential saving behavior for bequest purposes out of labor and property income. Higher bequest ratios out of property than out of labor incomes are shown to exist for every given degree of altruism towards one's heirs. This follows essentially from the fact that while labor income is expected to rise over time, the future return on property is expected to remain constant. In addition, it is argued that assets themselves must be entered directly into the utility function of wealthowners, apart from the future consumption and leisure opportunities that they yield. *J. Post Keynesian Econ.*, Winter, 1978–79, *1*(2), pp. 79–99. Wesleyan University, Middleton, Connecticut.

Moss, S. J.—The Post-Keynesian Theory of Income Distribution in the Corporate Economy

Post-Keynesian distribution theory was developed principally by Nicholas Kaldor, who took for granted the existence of corporations, and Luigi Pasinetti, who assumed corporations not to exist. This difference led to some confusion: the "Pasinetti paradox" was *not* the result of a correction of a "logical slip" by Kaldor, since Kaldor's models are logically correct in the context of the corporate economy, *albeit* special. A general model is developed of which the Kaldor and Pasinetti models are special cases and which extends the "Pasinetti paradox" to the corporate economy. This model clarifies the incompatibility between post-Keynesian and Walrasian theories. The source of incompatibility raises a new paradox for which a resolution is suggested. *Australian Econ. Pap.*, Dec. 1978, *17*(31), pp. 303–22. Manchester Polytechnic, England.

Mückl, W. J.—On the Existence of a Two-Class Economy in the Cambridge Models of Growth and Distribution

A. Maneschi and K. L. Gupta had tried to show that Nicholas Kaldor's assumptions about the workers' and capitalists' saving behavior include a steady growth solution where the wage bill would be equal to zero. This would rule out the existence of a working class. This result must be rejected as being incompatible with Kaldor's assumptions. Using a dynamic version of the Kaldor model, it is demonstrated that in long-run equilibrium growth only one solution is implied, which excludes the existence of the capitalist class. This result is independent of post-Keynesian or neoclassical premises about the *modus operandi* of the model. *Jahr. Nationalökon. Statist.*, Dec. 1978, *193*(6), pp 508–17. University of Passau, Federal Republic of Germany.

Rohwedderr, J.—Gesamtwirtschaftliche Nachfragefunktion und Vermögenseffekte (Aggregate Demand Function and Wealth Effects)

Within a Keynesian model wealth effects may eventually lead to both a positively sloped aggregate demand function and an unstable equilibrium: Rising prices reduce real wealth and thereby the demand for consumption goods. If only real money supply constitutes wealth (real balance effect), there will be an excess demand on the money-market because the demand for money will decrease less than real wealth. Incorporating government bonds into wealth, an excess supply may occur. The resulting decreased interest rate may increase the demand for investment goods and this compensate decreased consumption: Total demand for goods might increase with rising prices. *Jahr. Nationalökon. Statist.*, Dec. 1978, *193*(6), pp. 500–507 (German). *Institut für theoretische Volkswirtschaftslehre*, University of Kiel.

Smith, G. and Starnes, W.—A Short-Run Two-Sector Model with Immobile Capital

This paper analyzes an *IS-LM* model with separate prices for consumption and investment goods. Unlike the neoclassical two-sector literature, physical capital is here immobile, with investment motivated by the divergence between the cost of new capital and the market valuation of existing capital. When all markets are cleared by freely moving prices, commodity and financial markets influence employment and production by altering relative commodity prices. When a fixed nominal wage rate causes unemployment, commodity

price levels are the transmission mechanisms. Some of the specific results are consistent with the analogous one-sector models and others are not. *J. Money, Credit, Banking,* Feb. 1979, *11*(1), pp. 47–67. Yale University; Williams College.

024 Welfare Theory

Anderson, J. E.—On the Measurement of Welfare Cost under Uncertainty

Uncertainty about prices, incomes and taste parameters for both planners and consumers is ubiquitous, yet generally entirely suppressed in cost-benefit analysis. One exception is expected social surplus, used in analysis of buffering, but it has been strongly criticized for ignoring the variation in marginal utility of income that lies at the heart of welfare issues under uncertainty. The present paper offers an operational and rigorously based approach to the measurement of appropriate compensation measures under price, income, and taste uncertainty. It concludes with a numerical example showing order of magnitude errors in the faulty measures usually used. *Southern Econ. J.,* April 1979, *45*(4), pp. 1160–71. Boston College, Chestnut Hill, Massachusetts.

Arrow, K. J. and Radner, R.—Allocation of Resources in Large Teams

We study a team with many processes; the output process depends on the resources allocated to it by the resource manager, on a local decision by the process manager, and on a (random) parameter of the process. We compare two communication patterns: (1) resource allocations are based on full information; (2) all decisions are based on full information. We show that, if the criterion is expected average output per process, and if the process parameters are independent and identically distributed, then (under certain regularity assumptions) for "large" teams the additional communication among process managers in (2) over (1) has approximately no value. *Econometrica,* March 1979, *47*(2), pp. 361–85. Harvard University; University of California, Berkeley.

Boadway, R. W.—A Note on the Treatment of Foreign Exchange in Project Evaluation

Following the methods of James Meade, an expression is derived for the welfare change induced by a public project in a general equilibrium small open economy with tariff distortions. This welfare change measure is used as the basis for comparing the UNIDO and Little-Mirrlees rules for evaluating traded and non-traded commodities in cost-benefit analysis. *Economica,* Nov. 1978, *45*(180), pp. 391–99. Queen's University, Kingston, Ontario.

Broome, J.—Choice and Value in Economics

Welfare economic traditionally derives valuations of alternative states of affairs from the choices people make between them. The paper shows that this procedure cannot normally be justified on liberal grounds. It demonstrates, however, that a different defense is available, but only when the choices in question are made for good self-interested reasons. Cases are examined that do not meet this requirement: choices made with inadequate information, or without good reason; choices that are not self-interested; and choices between incommensurable alternatives. For such cases the paper shows that the traditional procedure of welfare economics is invalid. *Oxford Econ. Pap.,* Nov. 1978, *30*(3), pp. 313–33. Birkbeck College, London University.

Crawford, V. P.—A Procedure for Generating Pareto-Efficient Egalitarian-Equivalent Allocations

This paper describes a simple, operational procedure that, under reasonable economic assumptions, always generates Pareto-efficient egalitarian-equivalent allocations (PEEEA) when agents know each other's preferences. The procedure constitutes a new, constructive proof of Elisha Pazner and David Schmeidler's theorems on the existence of PEEEA, and shows that PEEEA, like fair and Pareto-efficient allocations, can be decentralized using less information than is required by the standard market procedure for decentralizing allocations that maximize a neoclassical, individualistic social welfare function. *Econometrica,* Jan. 1979, *47*(1), pp. 49–60. University of California, San Diego.

Gevers, L.—On Interpersonal Comparability and Social Welfare Orderings

Any social welfare function *à la* Bergson implies an ordering of the utility space, which is a convenient tool for studying the ethical observer or planner's discriminating ability. Several interesting possibilities come to mind: for instance, the planner is (or is not) allowed to compare utility levels (or utility gains, or both) across persons. These requirements are expressed in more or less stringent "invariance" axioms, which are imposed on social welfare orderings along with the strong Pareto principle and an impartiality or symmetry axiom. The paper provides a characterization of orderings that satisfy various sets of axioms. *Econometrica*, Jan. 1979, *47*(1), pp. 75–89. *Facultés Notre-Dame de la Paix*, Namur, Belgium.

Hartog, F.—Hennipman on Economic Policy and Welfare Economics: A Review Article

In the article attention is paid to a volume of reprints, in which Professor Hennipman unravels many problems on the boundary lines of economic policy, welfare economics, and the theory of public finance. This appears to be one of the few subjects in economics where deductive and qualitative reasoning can still do the job alone because the aim is refinement of thinking. The sharpening of mind on these issues can be helpful in finding the way in which economic theory can be useful to economic policy. *De Economist*, 1978, *126*(4), pp. 456–73. University of Groningen, The Netherlands.

Intriligator, M. D.—Income Redistribution: A Probabilistic Approach

The problem of income distribution is recast as one of income *re*distribution, focusing on changes in an initial income distribution. Four principles for income redistribution are developed, and a probabilistic approach to social choice is used to generate a specific redistribution mechanism, the *equality income system*, using a linear income tax that satisfies all these principles in a society with few individuals. This system is generalized to a class of redistribution mechanisms, *the linear income system*, analogous to the linear expenditure system, which includes one mechanism, the *proportional linear income system*, satisfying all four redistribution principles in a society with many individuals. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 97–105. University of California, Los Angeles.

Kaneko, M. and Nakamura, K.—The Nash Social Welfare Function

Motivated by Nash bargaining games, we investigate the notion of the Nash social welfare function in view of the social choice theory that has been developed since the work of Kenneth Arrow. We make a fundamental assumption that there exists a distinguished alternative called an origin, which represents one of the worst states for all individuals in the society. We also assume that preference of an individual satisfies von Neumann-Morgenstern utility axioms. Under the assumptions, we require the following conditions: Pareto optimality, independence of irrelevant alternatives with neutral property, anonymity, and continuity. It is proved that the Nash social welfare function is determined as the unique social welfare function satisfying the conditions. Further we discuss examples that display plausibility of the welfare function. *Econometrica*, March 1979, *47*(2), pp. 423–35. University of Tsukuba, Ibaraki-Ken, Japan; Tokyo Institute of Technology.

Ng, Y.-K.—Economic Growth and Social Welfare: The Need for a Complete Study of Happiness

Does economic growth increase social welfare (happiness)? Answers to such questions can only be provided by a complete analysis of all the objective, subjective, and institutional effects. All measures originate from the subjective world, working through the institutional setting to affect the objective world, the institutional setting, and/or the subjective world. Due to the increasing complexity of the modern society, it is likely that more problems are going to involve significant institutional and subjective effects, making a complete multidisciplinary study more necessary. As an introduction to this argument, the Harrod-Hirsch concept of positional goods and its implications on the desirability of economic growth are analyzed geometrically and extended. A simple method to reduce the difficulty of comparabil-

ity in happiness surveys is also suggested. *Kyklos*, 1978, *31*(4), pp. 575–87. Monash University, Clayton, Victoria, Australia.

Rao, R. T. V. S. and Kalpagam, U.—Dynamic Effects of Externalities, Optimal Saving and Economic Growth

Recognizing the fact that provision of mixed public goods can result in both consumption externalities of the Samuelsonian variety as well as production externalities, we set out to extend the earlier results of Rao and Kalpagam (1977) on the effect of public goods of economic growth. In so doing, we consider three standard specifications of production externalities and enlarged the concept of "consumption displacement." Our basic conclusion is that the results of our earlier paper remain valid under the more general conditions set out in this paper. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 351–67. Indian Institute of Technology, Kanpur.

Spremann, K.—On Welfare Implications and Efficiency of Entrance Fee Pricing

The efficiency of Entrance Fee Pricing (a generalization of two-part tariffs) is analyzed in a dynamic microeconomic model with two stages. The introduction of dynamic marginal cost provides a tool to characterize solutions to the three problems: (1) maximization of profit, (2) of welfare subject to budget constraints, (3) efficient multivariable pricing. *Z. Nationalökon.*, 1978, *38*(3–4), pp. 231–52. University of Ulm, Karlsruhe, Federal Republic of Germany.

025 Social Choice

Bailey, M. J.—The Possibility of Rational Social Choice in an Economy

This paper examines the implications of an error or oversight in the statement and proof of Kenneth Arrow's celebrated General Possibility Theorem. Besides showing that, strictly speaking, the theorem is false, we show that the force of the correctly stated theorem and of most of its descendants applies only to a class of election procedures, and not to social choice in an economy. A Bergson welfare function can be constructed that satisfies all the stated Arrow axioms and conditions, although the construction is unnecessary for consistent, effective social choice. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 37–56. University of Maryland, College Park, Maryland.

Fishburn, P. C.—Axioms for Approval Voting: Direct Proof

Approval voting is used in a multicandidate election when every voter can vote for any number of candidates and the candidate with the most votes wins. Approval voting is characterized in the variable-electorate mode by axioms of symmetry, consistency, and disjoint equality. Although the axioms' sufficiency can be established with the use of a linear separation theorem, this paper provides a simpler, more direct and intuitively more satisfactory proof of the representation theorem. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 180–85. Bell Laboratories, Murray Hill, New Jersey.

Gehrlein, W. V. and Fishburn, P. C.—Probabilities of Election Outcomes for Large Electorates

Results for quadrivariate normal orthant probabilities are used to derive probabilities of events for elections with large numbers of voters. Voters' preference orders are assumed to arise from the uniform distribution on the set of strict rankings of m candidates. Precise expressions for limit probabilities are given for: existence of a Condorcet candidate ($3 \leq m \leq 6$); transitive majorities ($m = 3,4$); coincidence of Borda and plurality winners (.75834, $m = 3$), Borda and Condorcet winners (.82212, $m = 3$), Condorcet and plurality winners (.69076, $m = 3$); and coincidence of the plurality winner and Condorcet loser (.03384, $m = 3$). *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 38–49. University of Delaware, Newark; Bell Laboratories, Murray Hill, New Jersey.

Myerson, R. B.—Incentive Compatibility and the Bargaining Problem

Collective choice problems with imperfect information are studied from a Bayesian standpoint. The incentive-feasible set is defined to be the set of utility allocations that are feasible with incentive-compatible mechanisms. This incentive-feasible set is compact and convex, and can be described by a finite collection of linear inequalities. All equilibrium allocations

for other mechanisms must be in this set. It is argued that efficiency criteria should be defined relative to this set. The generalized Nash solution proposed by J. C. Harsanyi and R. Selten is applied to this set, to define a bargaining solution for Bayesian collective choice problems. *Econometrica*, Jan. 1979, *47*(1), pp. 61–73. Northwestern University, Evanston, Illinois.

Nakamura, K.—Necessary and Sufficient Conditions on the Existence of a Class of Social Choice Functions

This paper is one of a series of my papers based upon the following vision: One may recognize the structure of the existence problem of non-null social choice functions by dividing it into two parts; *i.e.*, the rule of a game and the solution concept of the game. This paper, by using a result of Nakamura and that of S. Bloomfield, gives necessary and sufficient conditions for a social choice function to be non-null for a large class of social choice functions. The conditions state that a social choice function is non-null, if and only if, either an individual with veto power exists or the number of alternatives in each feasible set of alternatives is less than a certain fixed number, called the Nakamura number. *Econ. Stud. Quart.*, Dec. 1978, *29*(3), pp. 259–67. Tokyo Institute of Technology.

Stevens, D. N. and Foster, J. E.—The Possibility of Democratic Pluralism

This paper modifies A. K. Sen's "Liberal Paradox" by allowing groups, rather than individuals, to be decisive elements in social choice. However, decisive groups are not required to be disjoint; and member unanimity is not demanded for group decisiveness. While the Liberal Paradox remains valid for most group structures, it is demonstrated that there exists one type of group structure for which "democratic pluralism" is possible. Unfortunately, this possible group structure requires that some individual be a member of every decisive group such that this individual can dictate consistency over group choices. *Economica*, Nov. 1978, *45*(180), pp. 401–06. New College of the University of South Florida, Sarasota; Cornell Univerity.

026 Economics of Uncertainty and Information

Kahneman, D. and Tversky, A.—Prospect Theory: An Analysis of Decision under Risk

Choices among risky prospects exhibit several pervasive effects that are inconsistent with the basic tenets of utility theory. First, people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty which contributes to risk-aversion in choices involving sure gains and to risk-seeking in choices involving sure losses. Secondly, people generally discard components that are shared by all prospects under consideration, which leads to inconsistent preferences when the same choice is presented in different forms. A new model of choice, called prospect theory, is developed in which value is assigned to gains and losses rather than to final assets and in which probabilities are replaced by decision weights. *Econometrica*, March 1979, *47*(2), pp. 263–91. University of British Columbia, Vancouver; Stanford University.

Raviv, A.—The Design of an Optimal Insurance Policy

In this paper, the prevalence of several different insurance contracts is explained. Insurance policies are characterized by the coverage function specifying the transfer from the insurer to the insured for each possible loss. We characterize the form of the Pareto optimal insurance contract under general assumptions regarding the risk preferences of both the insurer and insured while recognizing the cost of insurance. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 84–96. Carnegie-Mellon University and Tel-Aviv University.

Riley, J. G.—Informational Equilibrium

If buyers are less well-informed about product quality than sellers, market prices will reflect average quality. Sellers of high quality products therefore have an incentive to engage in some distinguishing activity, which operates as a signal to potential buyers. This paper explores the viability of such signalling or "informational equilibria." It is established that with a continuum of quality levels there is no Nash equilibrium. An alternative noncooperative equilibrium concept is then developed in

which potential price-searching agents take account of possible reactions by other agents. It is shown that there is a unique "reactive" informational equilibrium. *Econometrica*, March 1979, *47*(2), pp. 331–59. Boston College, Chestnut Hill, Massachusetts.

030 History of Economic Thought; Methodology

031 History of Economic Thought

Blaug, M.—The German Hegemony of Location Theory: A Puzzle in the History of Economic Thought

The puzzle to which this paper is addressed is not so much the virtual German monopoly of spatial economics ever since the days of Heinrich von Thünen as the highly abstract and purely deductive character of these contributions in sharp contrast to the prevailing inductive historical slant of German economics as a whole. Why was German spatial economics immune to the methodological strictures of the Historical School? Neither the German hegemony of spatial economics nor the abstract character of German spatial economics can be explained in relativist terms. The answer lies in terms of the communication barrier posed by language differences. Thünen gave German economics a comparative advantage in spatial economics, and Thünen's style of reasoning decisively molded the form of all the later German contributions to the subject. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 21–29. University of London Institute of Education.

Collier, C. F.—Henry George's System of Political Economy

The article develops the formal system of Henry George's system of political economy and assesses his contributions to scientific economics. Special care is taken to examine the assumptions, the behavioral principles, and the interrelationships among the components of the system. The Georgian model of political economy is compared and contrasted to the classical and neoclassical models. It is shown that, while George's policy prescriptions are flawed, even on his own terms, George did have a complete, formal system of political economy. *Hist. Polit. Econ.*, Spring, 1979, *11*(1), pp. 64–93. Hamilton College, Clinton, New York.

Elliott, J. E.—Marx's *Grundrisse:* Vision of Capitalism's Creative Destruction

Marx's *Grundrisse* provides the clearest statement of his vision of capitalism's destruction and supercession. For Marx, socialism is conceived and nurtured in capitalism's womb, and is its product, not merely its heir apparent. It emerges on the basis of capitalism's development and creativity as well as emanates from its conflicts and contradictions. Capitalism's very success stimulates changes that both portend and facilitate the process of movement toward socialism. Socialism is capitalism's supercession as well as successor, fulfilling the promises and potentialities immanent in capitalist development but transcending its conflicts and contradictions. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 148–69. University of Southern California, Los Angeles.

Henderson, W. O.—Die Nachwirkungen der Listchen Gedanken, 1847–1853 (Friedrich List—The Aftermath, 1848–1853)

List advocated the industrialization of Germany and the establishment of a central European customs union. After his death, the outbreak of revolutions in Germany encouraged his followers to press forward with List's plans. Dr. Toegel helped to establish a protectionist association. Bruck, the Austrian Minister of Commerce, tried to persuade the German states to form a united customs union. His scheme was rejected by Prussia, but he succeeded in negotiating a commercial treaty with Prussia (1853), which established a special relationship between the Habsburg dominions and the Zollverein for the next 12 years. *Jahr. Nationalökon. Statist.*, Dec. 1978, *193*(6), pp. 545–57 (German). Gorebridge, Scotland.

Petridis, A.—Bilateral Monopoly, Tariff Reform, and the Teaching of Economics: The Neglected Contribution of Langford Price, (1862–1950)

This article concludes that the writings of English economist, Langford Price, are significant in the history of economics. A brief biography demonstrates Price's initial place in

mainstream Marshallian economics. An examination follows of Price's subsequent disenchantment with competitive modes of theorizing, his alignment with protectionist tariff reformers, his development of a theory of bilateral monopoly bearing a familial resemblance to the work of modern economists, and his major role in the development of economics teaching at Oxford University. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 94–116. University of Western Australia, Perth.

Wolfson, M.—Three Stages in Marx's Thought

Contrary to the view that Marx was a theorist of alienation, it is shown that his work constitutes three distinct systems defined by the philosophy of each. Marx was successively an empiricist, a humanist, and a materialist. To these corresponded, in turn, radical "bourgeois democracy," communism based on the alienation of man through private property, and communism based on materialist determinism in history. The reasons for Marx's change of view are explained in terms of his own reasoning that humanism was an unhistorical, normative approach to social problems rather than a science of society. The authoritarianism inherent in Marx is linked to determinism and shown to be an instrinsic element in his system. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 117–46. Oregon State University, Corvallis.

036 Economic Methodology

Field, A. J.—On the Explanation of Rules Using Rational Choice Models

Recent work in the new institutional economics attempts to explain the (traditionally exogenous) rule structures, which organize and regulate economic activity, using the same methodology whereby behavior within these constraints has been modeled. This paper argues that this goal is in principle and in practice not attainable: if the explanatory power of microeconomic theory is to be preserved, rule structures must be demarcated from the results of the individual maximizing behavior that may take place within them. The paper concludes that economists will need to redevelop their understanding of historical, cultural, and legal particularities if they are to contribute effectively to the study of the determinants and consequences of institutions or rule structures. *J. Econ. Issues*, March 1979, *13*(1), pp. 49–72. Stanford University.

Hill, L. E.—Social and Institutional Economics: Toward a Creative Synthesis

This article seeks to create a synthesis of the goals and objectives of social economics with the philosophy and methodology of institutional or evolutionary economics. Social economics is characterized mostly by a unique set of socioeconomic goals and objectives. Institutional economics consists mostly of a unique philosophy and methodology for the economic science. The theme of this essay is that the goals and objectives of social economics are completely compatible with the philosophy and methodology of institutional economics and that both approaches to economics are strengthened by this synthesis. *Rev. Soc. Econ.*, Dec. 1978, *36*(3), pp. 311–23. Texas Technical University, Lubbock.

Hunt, E. K.—The Normative Foundations of Social Theory: An Essay on the Criteria Defining Social Economics

There are three criteria, the satisfaction of which would warrant calling economic theory social economics: (a) the theory must recognize that any concrete empirical economic behavior represents a complex intersection of the innate traits of human nature (defined as universal human needs, potentials and degree of malleability) and the economic and social process through which the needs are satisfied (or left unsatisfied) and the potential is realized in varying degrees; (b) the theory must be normative, taking the satisfaction of human needs and the development of human potential as the norms of evaluating in economy; and (c) the theory must study the historical roots of the present situation as a means of evaluating the possibilities for a better society. It is argued that neoclassical utilitarian economic theory does not satisfy these criteria and is not social economics. Veblen and Marx are given as two examples of theorists whose ideas did satisfy the criteria and hence who were social economists. *Rev. Soc. Econ.*, Dec. 1978, *36*(3), pp. 285–309. University of Utah, Salt Lake City.

Katzner, D.—On not Quantifying the Nonquantifiable

This paper discusses the possibility of meaningful, rigorous analysis under circumstances in which measures of relevant variables are not available. Without attempting any form of measurement, methods of modeling nonquantifiable reality are proposed. These turn out to be analogous in many respects to those commonly employed to understand the quantifiable world. Analysis in the absence of measurement thus retains the major thrust of its quantitative counterpart. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 113–28. University of Massachusetts, Amherst.

Ladd, G. W.—Artistic Research Tools for Scientific Minds

The topics of this paper are frequently used, versatile, research tools: subconscious mental processes (imagination and intuition), chance (including serendipity), and writing. Conditions that may stimulate subconscious mental processes to generate useful ideas are discussed. They are doubt, venturesome attitude, diversity, thorough preparation, tension, temporary abandonment, relaxation, writing, exchange with colleagues, freedom from distraction, and deadlines. Various forms of chance and their roles in research and problem solving are discussed. It is argued that writing is not only a research-reporting tool, but it is also valuable in performing research. *Amer. J. Agr. Econ.*, Feb. 1979, *61*(1), pp. 1–11. Iowa State University, Ames.

Remenyi, J. V.—Core Demi-core Interaction: Toward a General Theory of Disciplinary and Subdisciplinary Growth

Demi-cores denote subdisciplines in the neoclassical scientific research programme (SRP) in economics. The theory suggests ways in which contemporary economics has evolved into specialized sub-fields. It also presents an alternative to received methods of analysis in the history of economic theory, with principal foci on interactions between and within specialized subdisciplines in economics. The theory is general and incorporates several dynamic elements not prominent in its heritage (from the theories of Thomas Kuhn and Imre Lakatos in the philosophy of science). Examples from growth theory, labor economics, and other subdisciplines in economics are used as illustrations. The article concludes with a preliminary outline of the essential elements of the contemporary neoclassical SRP, as suggested by the heuristics of the core demi-core model. *Hist. Polit. Econ.*, Spring 1979, *11*(1), pp. 30–63. Ford Foundation, New York.

Stanfield, J. R.—On Social Economics

This article argues that the basic difference between conventional economics and social economics is that the former focuses upon the production and distribution of goods and services while the latter emphasizes the reproduction of society. From this fundamental difference flows the greater emphasis that social economics assigns to the study of technology, institutional development, social stratification, and the place of economy in society. The article asserts that social economics is underdeveloped and closes with an examination of the effects on conventional economics of a fully developed social economics. *Rev. Soc. Econ.*, Dec. 1978, *36*(3), pp. 349–61. Colorado State University, Fort Collins.

Wisman, J. D.—The Naturalistic Turn of Orthodox Economics: A Study of Methodological Misunderstanding

The thesis of this essay is that due to its "naturalistic" self-understanding, orthodox economics has failed to mature as a human science. This mis-steering of economic methodology is traced to three misunderstandings: First, orthodox economists, led by philosophers of science, have incorrectly perceived the methodology of the natural sciences to be represented by the positivist model. Second, they have failed to appreciate how differences in subject matter render methods in the natural sciences not fully appropriate to economics. Third, they have not acknowledged important differences in the knowledge- and research-guiding human interests in the natural versus the social sciences. Consequently, orthodox economics is not only of questionable social usefulness, but potentially dangerous as well. *Rev. Soc. Econ.*, Dec. 1978, *36*(3), pp. 263–84. The American University, Washington, D.C.

Wisman, J. D.—Toward a Humanist Reconstruction of Economic Science

In spite of what appears to be a mounting crisis in current economics, orthodox economists staunchly defend their methodological stance as the appropriate one. The thesis of this essay is that not only does this stance impair the relevance of economics to current economic problems, but more importantly, it makes economics an instrument for technocratic control. For a humanist restructuring of economic science, a heightened methodological self-consciousness must evolve. Economics must recognize the philosophical origins and limits of its chosen truth standard. And in order to devolve a stance and the truth standards appropriate for a humanist mission, economics must acknowledge its knowledge-guiding human interests. *J. Econ. Issues,* March 1979, *13*(1), pp. 19–48, American University, Washington, D.C.

040 Economic History

042 Economic History: North America (excluding Mexico).

Gallman, R. E.—Slavery and Southern Economic Growth

The literature on the topic is reviewed, appraised, and extended. The relative level and rate of growth of ante-bellum Southern per capita income are exhibited and interpreted. An analysis of the effects of slavery on the industrial structure and performance of the Southern economy is offered. *Southern Econ. J.,* April 1979, *45*(4), pp. 1007–22. University of North Carolina, Chapel Hill.

044 Economic History: Europe

Beresford, M. W.—The Decree Rolls of Chancery as a Source for Economic History, 1547–c.1700

Reports on an investigation financed by Social Science Research Council into the character of litigation recorded in the decree rolls of the Court of Chancery. A complete contents listing of some 12,000 cases from 749 rolls was achieved and is now publicly available in the Public Record Office and elsewhere. This article expounds the complex make-up of the documents and the confused chronology of the roll numeration. It illustrates the wide range of subject matter of interest to economic historians, with particular but not exclusive reference to the enrollment of agreements to enclose common lands. Law suits concerning tithe, trade debts, mineral rights, and metal production are among those instanced. *Econ. Hist. Rev., 2nd Ser.,* Feb. 1979, *32*(1), pp. 1–10. The University, Leeds, England.

Bonney, R. J.—The Failure of the French Revenue Farms, 1600–60

The French revenue farms failed in their central purpose before 1660 because the yield of indirect taxes was low in comparison with other revenues enjoyed by the crown. The system of farming verged on collapse on a number of occasions and was kept going only by granting remissions to the farmers, which undermined the basic principle of the farm—to secure a settled revenue unaffected by short-term economic depression. The reasons for failure, particularly the fragility of the French economy in war-time and the manipulation of the farms by the crown as a source of loans, are also assessed. *Econ. Hist. Rev., 2nd Ser.,* Feb. 1979, *32*(1), pp. 11–32. University of Reading, England.

Chapman, S. D.—Financial Restraints on the Growth of Firms in the Cotton Industry, 1790–1850

The great majority of firms in the cotton industry remained "small to middling" until at least 1850 because the rapid growth of output and early mechanization in the United States and Western Europe necessitated the search for markets at increasing distances. So while fixed capital requirements remained modest, working capital needs escalated so rapidly as to put strains on even the wealthiest firms. The local banking system was inadequate until the 1830's and after that suffered gravely from inexperience. The commission agents abroad had little capital of their own, while the city acceptance houses seldom advanced all the invoice. *Econ. Hist. Rev., 2nd Ser.,* Feb. 1979, *32*(1), pp. 50–69. University of Nottingham, England.

Cohen, J. S.—Fascism and Agriculture in Italy: Policies and Consequences

Fascist agricultural policies are reviewed and an attempt is made to analyze their impact on investment, consumption, and the distribution of landholdings. It is argued that had the fascist regime pursued alternative policies, investment in agriculture would have been greater, agricultural output would have grown more rapidly, and Italian workers would have suffered fewer hardships. As it was, fascist policies led to a concentration of landholdings, to a slowing down rather than a speeding up of capital accumulation in the agrarian sector, and to a decline in agricultural production below the sector's productive potential. For the working class, fascism meant impoverishment. As a first approximation, it is reasonable to conclude that fascism was at best a mixed blessing for Italian capitalism. *Econ. Hist. Rev., 2nd Ser.*, Feb. 1979, *32*(1), pp. 70–87. University of Toronto.

Collins, M.—Monetary Policy and the Supply of Trade Credit, 1830–44

An examination of the responsiveness of trade credit to changes in interest rates and central bank liabilities. This relationship played a significant role in the contemporary debate on the importance of money and the potency of Bank of England monetary policy. Statistical analyses indicate that changes in the stock of high-powered money under the Bank of England's control had a direct effect on the level of credit creations; that the effects of changes in short-term interest rates pulled in the opposite direction; and that the former was the more important determinant. *Economica*, Nov. 1978, *45*(180), pp. 379–89. University of Leeds, England.

Tomlinson, B. R.—Britain and the Indian Currency Crisis, 1930–2

A study of the financial relationship between Britain and India in the interwar years, focusing on the crisis of government remittance, public finance, and confidence in the rupee during the Great Depression. The article argues that the 1931 crisis revealed that the British Government had an important, if negative, interest in India's finances, which led Britain to modify considerably her plans for granting self-government. *Econ. Hist. Rev., 2nd Ser.*, Feb. 1979, *32*(1), pp. 88–99. Magdalene College, University of Cambridge.

von Tunzelmann, G. N.—Trends in Real Wages, 1750–1850, Revisited

The "real-wage debate"—the statistical version of the classic "standard-of-living debate"—over British industrialization in the Industrial Revolution was synthesized by M. W. Flinn in 1974. The present article re-examines his synthesis, using more powerful statistical tools. Principal-components analysis is used to derive weighted averages of money wages and of prices, demonstrating that though series on each of these move closely in sympathy throughout, the resulting real-wage indexes can exhibit anything from a zero increase to one of 150 percent between 1750 and 1850. Industrialization changes are the chief determinant of shorter-term patterns. Regional divergences are shown to be less serious than often alleged. *Econ. Hist. Rev., 2nd Ser.*, Feb. 1979, *32*(1), pp. 33–49. St John's College, University of Cambridge.

050 Economic Systems

052 Socialist and Communist Economic Systems

Yunker, J. A.—The Microeconomic Efficiency Argument for Socialism Revisited

Oskar Lange's effort to prove that contrary to longstanding orthodoxy, microeconomic allocation under socialism would be *more* efficient than under capitalism must be deemed a failure. Langian market socialism is dismissed by orthodox economists as at best a mildly interesting theoretical construct hardly suited to practical application. This paper tries to restore Lange's argument, based on an alternative to the Langian model, called "pragmatic market socialism." The pragmatic plan would endeavor to instill as strong a profit maximization motive in the firm managers as possible. Most property return would be evenly distributed among the population in the form of a social dividend. The institutional reality of separation of ownership and control under contemporary capitalism may engender X-inefficiency, which could be reduced under socialism through the concentration of property rights over individual corporations, with the implication of increased pressure on corporate

managers to earn profits. The objection that microeconomic efficiency is in any event a minor consideration is critically discussed. *J. Econ. Issues,* March 1979, *13*(1), pp. 73–112. Western Illinois University, Macomb.

100 Economic Growth; Development; Planning; Fluctuations

110 Economic Growth; Development; and Planning Theory and Policy

111 Economic Growth Theory and Models

Benhabib, J. and Nishimura, K.—On the Uniqueness of Steady States in an Economy with Heterogeneous Capital Goods

The non-vanishing Jacobian condition for the uniqueness of the steady state is relaxed. The relaxed condition is shown to be weaker than the "normality" condition on the utility function. The economic content of the condition on the Jacobian is clarified. Finally, the case of joint production is considered. *Int. Econ. Rev.,* Feb. 1979, *20*(1), pp. 59–82. University of Southern California, Los Angeles; Tokyo Metropolitan University.

Bernholz, P. and Faber, M.—Steady State and Superiority of Roundaboutness: A Comparison between the Neoclassical and a Neo-Austrian Approach

Within a simple neo-Austrian two-sector growth model some results of neoclassical growth theory are derived and analyzed. It is demonstrated: (1) Superiority and roundaboutness are necessary conditions for a production program to be an efficient steady state. (2) Only greater productivity of roundabout methods of production determines the positive difference between interest and growth rate. (3) Even if the growth rate is negative, superiority and roundaboutness can explain a positive interest rate. (4) In a golden rule program the interest rate is only equal to the growth rate if there is neutrality of time preference. *Z. ges. Staatswiss.,* 1978, *134*(4), pp. 703–14. University of Basel; University of Heidelberg.

Mitra, T.—On Optimal Economic Growth with Variable Discount Rates: Existence and Stability Results

The paper considers a framework of infinite-horizon optimal growth, where the discount rates in the objective function are allowed to vary over time, and production takes place according to the standard aggregative neoclassical model. It is shown that (i) weakly-maximal programs exist if and only if the reciprocals of the weights on utilities in the different periods are not summable; (ii) optimal programs exist if and only if the weights on utilities are bounded above; (iii) when weakly-maximal programs exist, the input levels of such programs, from different initial stocks, converge to each other. *Int. Econ. Rev.,* Feb. 1979, *20*(1), pp. 133–45. State University of New York at Stony Brook.

Narayanan, R.—A General Keynes-Ramsey Formula for the Two-Sector Growth Model

F. P. Ramsey's optimal savings formula for the one-sector model and its illuminating interpretation by John Maynard Keynes are well known. A refinement of Keynes's argument by Tjalling C. Koopmans applied to a general two-sector growth model with nonshiftable capital and nonnegative discount rate gives a general Keynes-Ramsey formula for the two-sector model. Further analysis using L. S. Pontryagin's theory shows that the Keynes-Ramsey formula is a special case of a more general equation satisfied by an optimal program and that it holds actually on two trajectories, which tend to an optimal stationary state. These properties are useful for computation of optimal policies in the two-sector model. *Z. Nationalökon.,* 1978, *38*(3–4), pp. 323–49. University of Alberta, Edmonton.

O'Connell, J.—Savings and Prices in a Full-Employment Traverse

This paper is concerned with the Traverse to the equilibrium growth path when full employment of both machine and labor stocks is continuously maintained. The model assumes a single, non-specific capital good only, and the particular problem dealt with is the nature of the adjustment in savings and prices. *Oxford Econ. Pap.,* Nov. 1978, *30*(3), pp. 458–63. University College, London.

Orosel, G. O.—On the Wage-Interest Curve, Its Dual Relation, and the Theory of Capital within a Two-Sector Vintage Model

In the article the wage-interest curve for a two-sector vintage model is derived whereby the wage is taken to be the wage per efficiency unit of labor. Then it is shown that there exist dual consumption-growth curves which, however, depend on the rate of interest; those curves may have upward sloping parts, which is not possible for the wage-interest curve. The golden rule of accumulation can be proved. Further, contrary to the one-sector vintage model, more savings can imply shorter utilization periods, but only if the Wicksell effect is negative. *Oxford Econ. Pap.*, Nov. 1978, *30*(3), pp. 367–87. University of Vienna.

112 Economic Development Models and Theories

Hamilton, C.—Appraising Capital Goods Imported to Developing Countries

This paper investigates the specific conditions under which it is possible to undertake an investment appraisal at the border of a developing country through a tax/subsidy on certain imported capital goods rather than a project appraisal. The expressions are derived for the relationship between government objectives and the magnitude of the border tax/subsidy. *Scand. J. Econ.*, 1978, *80*(4), pp. 411–20. Institute for International Economic Studies, Stockholm.

114 Economics of War, Defense, and Disarmament

Thompson, E. A.—An Economic Basis of the "National Defense Argument" for Aiding Certain Industries

Two alternative theories, each generating a "National Defense Argument" for protectionism, are developed and tested. The theory surviving the tests states that wartime price controls imply an undervaluation of peacetime stocks of capital, which produce the war-controlled outputs. Optimal policy responses to these undervaluations are derived. For example: Non-imported, undervalued capital goods should receive domestic subsidies; undervalued capital goods, imported in peacetime but not in wartime, should receive import protection; and undervalued capital goods, which are imported in wartime, should be granted cartel status. An application to the United States indicates that the theoretical optimum is approximated by observed policy. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 1–36. University of California, Los Angeles.

120 Country Studies

121 Economic Studies of Less Industralized Countries

Szikszay, B.—Some Lessons from the Modification of the System of Economic Regulation in Hungary

On the basis of the experience gained since 1968, in order to improve economic efficiency under the unfavorable world economic conditions and to enhance the orientating power of prices, economic regulators were adjusted for better adapting to world market conditions. To convey the changed circumstances, to cut the enterprise net profit level in accordance with their actual contribution to social net income, to enhance self-reliance and responsibility, to equalize welfare services among enterprises, changes were made in the system of producer prices, taxation, and subsidies. The relation between wages and profits become looser, though stimulation is maintained. Both investment regulation and foreign trade orientation were modified to stimulate the improving of the balance of payments toward Western countries. Further improvements are still necessary to foster efficiency, even by permitting a larger differentiation of enterprise and individual incomes. *Acta. Oecon.*, 1977, *19*(2), pp. 121–32. Hungarian Socialist Workers' Party.

130 Economic Fluctuations; Forecasting; Stabilization; and Inflation

131 Economic Fluctuations

van Duijn, J. J.—Dating Postwar Business Cycles in the Netherlands, 1948–1976

In this paper a postwar business cycle chronology is established for the Netherlands. This chronology is based on 19 Dutch economic indicators. As a first step, a deviation cycle is determined for each indicator. Next a reference cycle is dated, using the diffusion index method. Measured from trough to trough, the average length of 6 Dutch postwar business cycles has been 53 months, with the expansion phase averaging 29 months and the contraction phase averaging 24 months. *De Econo-*

mist, 1978, *126*(4), pp. 474–504. Graduate School of Management, Delft, the Netherlands.

Sheffrin, S. M.—Unanticipated Money Growth and Output Fluctuations

A rational expectations model is developed in which prices are fixed during a period. The implications of this model are that output fluctuations are correlated with unanticipated aggregate demand but not with unanticipated inflation. Empirical tests of the model indicate that the persistence of business cycles cannot be explained solely by unanticipated aggregate demand. *Econ. Inquiry,* Jan. 1979, *17*(1), pp. 1–13. University of California, Davis.

Varian, H. R.—Catastrophe Theory and the Business Cycle

We use the approach of R. Thom's "Catastrophe Theory" to construct a generalization of Nicholas Kaldor's 1940 trade cycle. The model allows for cyclic behavior, which exhibits either rapid recoveries (recessions) or slow recoveries (depressions). *Econ. Inquiry,* Jan. 1979, *17*(1), pp. 14–28. University of Michigan, Ann Arbor.

You, J. K.—Capital Utilization, Productivity, and Output Gap

In this paper we developed a simple model in which the rate of capital utilization and manhours can be estimated. The estimation results show that capital is more variable than labor over the business cycles, which is explained by the shifts in demand between industries with different capital intensities. This finding also helps explain the procyclical changes in labor productivity. Further application of the estimation results reaffirms the well known Okun's Law, *i.e.,* three to one relation between the output gap and employment gap in the short run and 2.7 to one in the long run. *Rev. Econ. Statist.,* Feb. 1979, *61*(1), pp. 91–100. Rutgers University, New Brunswick, New Jersey.

132 Economic Forecasting and Econometric Models

Babich, G. and Goodhew, J.—Short Term Econometric Forecasting and Seasonal Adjustment

Seasonal behavior in the variables of an econometric model is usually handled in one of two ways—either data are adjusted prior to estimation or seasonal binary variables are included in the specification and estimation of the model. Although the literature on the subject is extensive, it is not obvious which of these procedures is best for forecasting. This paper compares the forecasting ability of a small model of the Australian economy for each of the alternative approaches to seasonal adjustment. *Econ. Rec.,* August 1978, *54*(146), pp. 229–36. University of Sydney, New South Wales.

Knight, M. D. and Wymer, C. R.—A Macroeconomic Model of the United Kingdom

The econometric model in this paper determines the major aggregates in the U.K. economy. It includes a production function, a detailed financial sector, policy reaction functions, and the budget constraints of all sectors, including the government. The steady-state solution is discussed, and the model is estimated subject to the overidentifying restrictions of the theoretical structure using simultaneous estimation methods. Parameter estimates and standard tests indicate that the model is a plausible representation of the U.K. economy. A general analysis of the dynamic properties is integrated with a discussion of the implications of the policy reaction functions for stability. *Int. Monet. Fund Staff Pap.,* Dec. 1978, *25*(4), pp. 742–78 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

Osborn, D. R. and Teal, F.—Choosing between Macroeconometric Models: An Illustration of the Problem

The paper reports the results of an exercise in comparing two *National Institute of Economic and Social Research* models of the U.K. economy, these models differing only in their equations for imports of goods. In one model imports are explained on an aggregate basis, the equation having a relatively high price elasticity and low expenditure elasticity. The disaggregated equations of the other model imply a lower price elasticity but much higher expenditure elasticity. The *ex post* forecasting

performances of the two models are compared over sample and post-sample periods, and there is little to choose between them. When, however, the models are used to simulate the effects of changes in two policy variables, they fail to agree about either the speed or magnitude of the economy's reaction. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 63–75. University of Manchester, England; National Institute of Economic and Social Research, London.

Zarnowitz, V.—An Analysis of Annual and Multiperiod Quarterly Forecasts of Aggregate Income, Output, and the Price Level

This paper examines several sets of forecasts representing a variety of sources, models, and techniques. Predictions of percentage changes in GNP are relatively accurate, but partly because of negative correlations between errors in the corresponding forecasts of real growth and inflation. For the last two variables, the multiperiod quarterly forecasts for the 1970's have errors that show unusually rapid cumulations over longer spans. The accuracy and properties of the forecasts depend heavily on the economic characteristics of the periods covered, but only weakly and not systematically on the differences among the forecasters. *J. Bus.*, Jan. 1979, *52*(1), pp. 1–33. University of Chicago.

133 General Outlook and Stabilization Theories and Policies

Majer, H.—Die Problematik der Bestimmung von Konflikten wirtschaftspolitischer Ziele (The Problem of Defining Conflicts of Economic Targets)

Despite its broad attention in economic literature, the problem of conflicts of economic targets has not found systematic treatment in definition and application to economic models. In the present paper a simple approach is developed for a systematic definition of conflicts of economic targets by conflict causes. Furthermore, this approach is applied to economic models to show and analyze conflicts of economic targets. Application is demonstrated with a simple model. New aspects are derived for the theoretical and empirical existence of the modified Phillips curve. *Jahr. Nationalökon. Statist.*, Oct. 1978, *193*(5), pp. 385–405 (German). Tübingen, Federal Republic of Germany.

Modigliani, F. and Papademos, L.—Optimal Demand Policies against Stagflation

This paper deals with the selection of an optimal aggregate demand policy in response to an inflationary shock—optimal in the sense that it returns the economy to full employment and price stability along an inflation-unemployment path minimizing social welfare costs. It is argued that the cost of any given stabilization path can be taken as proportional to the excess of inflation and unemployment above the long-run target, cumulated over the path. Relying on a very general formulation of the "Phillips Curve," the optimal policy response to an inflationary shock is analyzed and shown to exhibit simple "turnpike" properties. The approach is illustrated by applying it to the United States over the 1971–75 period, investigating the sensitivity of the optimal path to alternative welfare evaluations and views on the nature of the trade-off. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 736–82. Massachusetts Institute of Technology; Columbia University.

Phelps, E. S.—Disinflation without Recession: Adaptive Guideposts and Monetary Policy

This paper establishes a theorem on the existence of a unique path of the aggregate-demand control variable, here the supply of money, that achieves a reduction of the inflation rate to the level prescribed without even a temporary deviation of employment from the "natural rate"—despite the presence of staggered, and therefore overlapping, wage-rate commitments of an unindexed, fixed-duration type. The demonstration depends on the postulate of perfect foresight regarding the course of the average money wage and of the money supply. In practice, the success of such a disinflation program would require a term-structure of wage guideposts as an aid in the formation of expectations. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 783–809. New York University.

Vroman, S. and Vroman, W.—Money Wage Changes: Before, During and After Controls

The most recent U.S. experiment with an incomes policy was the Nixon Administration's Economic Stabilization Program. This paper assesses one aspect of the program, its impact on money wages in manufacturing. Multiple regression equations are used to compare actual and predicted wage changes before, during and after this incomes policy. The paper reaches three main conclusions: (1) The program had a larger impact on negotiated wages than on average hourly earnings in manufacturing. (2) The wage freeze in 1971 had no lasting effect on hourly earnings as it was immediately followed by a wage bulge. (3) The program did not restrain wage increases more during Phase II than during the more flexible Phases III and IV. *Southern Econ. J.*, April 1979, *45*(4), pp. 1172–87. Georgetown University; The Urban Institute, Washington, D.C.

134 Inflation and Deflation

Brown, A. J.—Inflation and the British Sickness

The thesis that slow growth, cost-push inflation, and balance of payments weakness are linked and mutually reinforcing conditions in the British economy is found to be broadly confirmed, though increasing returns to scale play a part in exacerbating this condition. Low profits, which are an important part of the mechanism, are suggested as a main cause of the British inability in recent years to take full advantage of favorable conditions of relative price. The key importance of incomes policy and of gearing demand expansion to supply possibilities in any policy designed to break the vicious circle is stressed. *Econ. J.*, March 1979, *89*(353), pp. 1–12. University of Leeds, England.

Cornwall, J.—Towards Full Employment and Price Stability: A Review of the OECD Report

The article reviews a recent OECD attempt to explain the causes of the acceleration of inflation in the postwar period and the subsequent stagflation. The report is unconvincingly optimistic about the future growth, employment, and inflation prospects of the OECD economies. While most of the factors cited as causes of the acceleration in inflation are noneconomic, the chief policy measures advocated for a return to "normalcy" are economic. No evidence is offered that the (largely) noneconomic, structural changes have disappeared and are therefore unlikely to reassert themselves following a return to full employment. The future is just as likely to be one of continued stagflation or a permanent incomes policy. *Kyklos*, 1978, *31*(4), pp. 662–78. Dalhousie University, Halifax, Nova Scotia.

Fischer, S. and Modigliani, F.—Towards an Understanding of the Real Effects and Costs of Inflation

The traditional view that, because money is neutral, inflation produces no appreciable real effects is shown to hold approximately only for an economy whose institutions are fully inflation-proof, *e.g.*, a fully indexed one. But the real effects are shown to become more and more widespread and serious as the institutions of the economy become more nearly nominal. The paper examines in succession the consequences of nominal government institutions (tax system, definition of taxable income, accounting procedures); of nominal private institutions and accounting conventions (mortgages and annuity contracts, measurement of income), even when inflation is, and has been, fully anticipated. It examines next the effects of unanticipated inflation, which has not been incorporated in existing nominal long-term contracts, and of uncertain future inflation. Whenever possible, an effort is made to assess the social cost of various real effects even though it is not possible at this time to assess the overall social costs of inflation. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 810–33. Massachusetts Institute of Technology.

Gultekin, B. and Santomero, A. M.—Indexation, Expectations, and Stability

This paper analyzes the impact of indexation on overall economic stability by using the Hurwitz criterion on the dynamic characteristics of a regime with various types of sector interrelationships. It concludes that pure wage indexation is the most preferred system, as it unambiguously reduces the constraints to ensure stability and that indexation is an alternative to expectations in the dynamic equations of

a macroeconomy. It is preferred only if it operates more efficiently than a less formal scheme of adjustment. *J. Money, Credit, Banking,* Feb. 1979, *11*(1), pp. 1–21. Amos Tuck School, Dartmouth College; Wharton School, University of Pennsylvania.

Ulmer, M. J.—Old and New Fashions in Employment and Inflation Theory

This study starts with an analogy between the situation of classical theory in the 1920's to 1930's and that of the Keynesian theory in the post–World War II period. In both instances there was a clash between observable facts and theoretical expectations, which gradually sharpened. It is shown that exclusive preoccupation with theoretical models of the past in such cases is fatal. A new model is then presented for solving the contemporary unemployment–inflation dilemma, taking account of the relevant institutional facts excluded by the Keynesian theory. An integrated four-point program evolves, aimed at combatting jointly structural and cyclical unemployment and demand-pull and cost-push inflation. *J. Econ. Issues,* March 1979, *13*(1), pp. 1–18. University of Maryland, College Park.

200 Quantitative Economic Methods and Data

210 Econometric, Statistical, and Mathematical Methods and Models

211 Econometric and Statistical Methods and Models

Amemiya, T.—The Estimation of a Simultaneous-Equation Tobit Model

In this article the author proposes a class of generalized least squares estimators for a two-equation simultaneous equations model in which one of the endogenous variables is completely observable and the other is truncated. The proposed method of estimation can be used more generally whenever the estimates of the structural-equation parameters need to be obtained from those of the reduced-form parameters. The asymptotic variance-covariance matrices of the estimators are derived and compared. *Int. Econ. Rev.,* Feb. 1979, *20*(1), pp. 169–81. Stanford University.

Anderson, T. W. and Sawa, T.—Evaluation of the Distribution Function of the Two-Stage Least Squares Estimate

This paper evaluates numerically the cumulative function *(cdf)* of the two-stage least squares (TSLS) estimate of the coefficient of an endogenous variable in a single equation of a system of simultaneous equations. Tables of the *cdf's* are given for enough values of the standardized coefficient, the number of excluded exogenous variables, and the noncentrality parameter, so that the *cdf* can be obtained for any case by suitable interpolations and transformations. Other tables evaluate the accuracy of approximations to the *cdf's* based on the normal distribution and asymptotic expansions. Some properties of the TSLS estimate are inferred, and comparisons with other estimates made. *Econometrica,* Jan. 1979, *47*(1), pp. 163–82. Stanford University; Institute of Economic Research, University of Kyoto.

Baillie, R. T.—The Asymptotic Mean Squared Error of Multistep Prediction from the Regression Model with Autoregressive Errors

The asymptotic prediction mean squared error is derived for the regression model with autoregressive errors. The results cover the cases where future values of the exogenous variables are known, where some exogenous variables are predicted from autoregressive processes, and where lagged endogenous variables are included in the model. A result is also obtained for the predictor that ignores autocorrelation of the errors and is based on ordinary least squares estimates of the regression parameters. The theory is illustrated by means of a model of the demand for imports in the United Kingdom. *J. Amer. Statist. Assoc.,* March 1979, *74*(365), pp. 175–84. University of Aston, England.

Breusch, T. S.—Testing for Autocorrelation in Dynamic Linear Models

This paper extends Durbin's test for autoregressive (AR) disturbances in dynamic linear models to consider moving average (MA) and composite (ARMA) disturbances. Test statistics are derived by the Lagrange multipler (LM) method, which is compared with Durbin's ap-

proach. In the first-order AR case, the LM statistic is the same as Durbin's h-statistic. The LM statistic for an MA is shown to be the same as that for an AR of the same order. By a suitable choice of estimate for the information matrix, the statistic can be computed by a least-squares regression. *Australian Econ. Pap.*, Dec. 1978, *17*(31), pp. 334–55, Australian National University, Canberra.

Chipman, J. S.—Efficiency of Least-Squares Estimation of Linear Trend when Residuals are Autocorrelated

The regression model is studied in which a dependent variable is a linear function of time, and the residuals follow a first-order stationary Markoff process. It is found that the efficiency of the ordinary least-squares (relative to the Gauss-Markoff) estimator of the coefficient of the trend term has a greatest lower bound of .753763 over all sample sizes and all values of the autocorrelation coefficient between zero and one. This compares with a greatest lower bound of .535898 to the relative efficiency of the Cochrane-Orcutt estimator of the trend coefficient. *Econometrica*, Jan. 1979, *47*(1), pp. 115–28. University of Minnesota, Minneapolis.

Cook, R. D.—Influential Observations in Linear Regression

Characteristics of observations that cause them to be influential in a least squares analysis are investigated and related to residual variances, residual correlations, and the convex hull of the observed values of the independent variables. It is shown how deleting an observation can substantially alter an analysis by changing the partial F-tests, the studentized residuals, the residual variances, the convex hull of the independent variables, and the estimated parameter vector. Outliers are discussed briefly, and an example is presented. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 169–74. University of Minnesota, St. Paul.

Deistler, M. and Schrader, J.—Linear Models with Autocorrelated Errors: Structural Identifiability in the Absence of Minimality Assumptions

The paper investigates the identifiability of linear dynamic stochastic models with autocorrelated errors if no minimality (= left co-primeness) assumption has been imposed on the structures. We treat global identifiability in the case of (general) affine cross equation restrictions and local identifiability in the case of continously differentiable cross-equation restrictions. In addition, for some special cases the role of the minimality assumption is discussed by comparing the restrictions required to guarantee identifiability in the minimal and the nonminimal case. *Econometrica*, March 1979, *47*(2), pp. 495–504. Technical University of Vienna; McKinsey Company, Düsseldorf.

Fomby, T. B.—MSE Evaluation of Shiller's Smoothness Priors

Shiller's smoothness priors are examined from a mixed estimation point of view. A sampling theory formulation is provided, which allows mean squared error evaluation of different degrees of smoothness and values of the nuisance parameter using readily available tables. The Almon and Griliches, *et al.*, data sets are used to illustrate the developed test procedure and the flexibility of lag specification using smoothness priors. In both data sets Shiller's rule-of-thumb resulted in a conservative value for the nuisance parameter. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 203–15. Southern Methodist University, Dallas.

Geisser, S. and Eddy, W. F.—A Predictive Approach to Model Selection

This paper offers a synthesis of Bayesian and Sample Reuse approaches to the problem of high structure model selection geared to prediction. Similar methods are used for low structure models. Nested and non-nested paradigms are discussed and examples given. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 153–60. University of Minnesota, Minneapolis; Carnegie-Mellon University.

Hausman, J. and Wise, D. A.—Attrition Bias in Experimental and Panel Data: The Gary Income Maintenance Experiment

Experiments that take place over time and individual response to economic incentives differ in an important way from classical experimental design. Even if a randomized sample design is initially used, individual attrition may create biased estimates of the population re-

sponse to the program being tested. Nonrandom attrition is quite likely to occur, since those individuals who benefit less or not at all from an experiment are often more likely to drop out than the individuals who derive greater benefit from participation. A statistical model is formulated and estimated using Gary, Indiana, negative income tax (NIT) data, which permits both efficient estimation and a test for nonrandom attrition. The traditional analysis of variance estimation is found to be more sensitive to nonrandom attrition than is a more completed time-series–cross-section regression specification. *Econometrica,* March 1979, *47*(2), pp. 455–73. Massachusetts Institute of Technology; Harvard University.

Heckman, J. J.—Sample Selection Bias as a Specification Error

This paper discusses the problem of sample selection bias that arises when behavioral relationships are estimated on non-randomly-selected samples. Data may be non-randomly-missing because of self-selection decisions by individuals or because of sample selection decisions made by data analysts. A characterization of sample selection bias as a specification bias is given. A simple estimator that corrects the bias is developed, and its asymptotic distribution is derived. *Econometrica,* Jan. 1979, *47*(1), pp. 153–61. University of Chicago.

Hsiao, C.—Measurement Error in a Dynamic Simultaneous Equations Model with Stationary Disturbances

This paper is concerned with the identification and estimation of the parameters in a dynamic simultaneous equations model with stationary disturbances when both the endogenous and exogenous variables are subject to random measurement errors. A frequency domain approach is suggested to fully utilize the information contained in the data. The first part of this paper explores the identification criteria. The second part of this paper suggests estimation methods for such a model. Both full information and limited information estimation methods are studied, and their respective gains and losses are evaluated. *Econometrica,* March 1979, *47*(2), pp. 475–94. University of Toronto.

Hsu, D. A.—Detecting Shifts of Parameter in Gamma Sequences with Applications to Stock Price and Air Traffic Flow Analysis

In this article a technique for detecting shifts of the scale parameter in a sequence of independent gamma random variables is discussed. Distribution theories and related properties of the test statistic are investigated. Numerical critical points and test powers are tabulated for two specific variables. Other useful techniques are also summarized. The methods are then applied to the analysis of stock market returns and air traffic flows. These two examples are studied in detail to illustrate the use of the proposed method compared to other available techniques. The empirical examples also illuminate the importance of the treatment of stochastic instability in statistical applications. *J. Amer. Statist. Assoc.,* March 1979, *74*(365), pp. 31–40. University of Wisconsin, Milwaukee.

von Knorring, E.—Die statistiche Ermittlung von Strukturfaktoren—Einige kritische Anmerkungen (The Statistical Computation of Structural Factors—Some Critical Remarks)

Often so-called structural factors are computed in empirical studies to measure the influence of structural changes (*e.g.*, of the employees) on the growth of a macroeconomic variable (*e.g.*, of the productivity of labor). As a method, mostly tautological transformations are used. It is proved in this paper that this method is inconsistent and arbitrary and can not isolate structural influences. So called structural factors (structural components, structural effects, or structural gains) are statistical indices without any importance. They do not contribute anything to a separation between changes in level and structure. *Jahr. Nationalökon. Statist.,* Dec. 1978, *193*(6), pp. 558–63 (German). University of Augsburg, Federal Republic of Germany.

Kohn, R.—On the Relative Efficiency of Two Methods of Estimating a Dynamic Simultaneous Equations Model

For an identified, dynamic, simultaneous equations model with autoregressive or moving average residuals, it is shown that an asymptotically efficient estimator of the struc-

ture that takes account of the parametric nature of the residuals will be at least as efficient (asymptotically) as, and generally more than, the corresponding nonparametric spectral estimator, the latter using only the stationarity property of the residuals. A necessary and sufficient condition for the two approaches to be equally as efficient is given, as well as some simpler sufficient conditions. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 237–52. Australian National University, Canberra.

Lau, L. J.—On Exact Index Numbers

The conditions for exactness of the Törnqvist, Sato-Vartia, and the Fisher Ideal index number formulas are investigated. Necessary and sufficient conditions are derived for exactness of the Törnqvist and Fisher Ideal index number formulas under the assumption that the function to be indexed is once continuously differentiable. Sufficient conditions are derived for exactness of the Sato-Vartia index number formula. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 73–82. Stanford University.

Maeshiro, A.—On the Retention of the First Observations in Serial Correlation Adjustment of Regression Models

The paper examines the effect of trends (or nontrends) in independent variables on the importance of retaining the weighted first observations in first-order serial correlation adjustment of a regression model. The major finding is that when an independent variable contains a commonly observed amount of trend and the disturbances are positively autocorrelated, the increase in efficiency due to the retention of the first observations is much larger than what is expected *a priori* or from the results of previous Monte Carlo studies. Therefore, practicing economists should switch from Cochrane-Orcutt versions to generalized least squares versions in such a case. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 259–65. University of Pittsburgh.

Mallela, P. and Rao, A. S.—Necessary and Sufficient Conditions for Inadmissibility of Transformations in Time

When the assumption of temporal uncorrelation of the disturbances of a stable first order system is dropped, certain identities involving the systematic part of the lagged dependent variables and the current exogenous variables become relevant for the purposes of identification. The problem discussed is the additional assumptions under which such identities are not implied by the system. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 157–67. Northern Illinois University, DeKalb.

McLaren, K. R.—The Optimality of Rational Distributed Lags

In this paper a behavioral model based on costs of adjustment is combined with a specification of wide sense stationarity. The implied optimal behavior is shown to be in the form of a rational distributed lag, with restrictions based on properties of the stochastic process and parameters of the behavioral model. In particular, the degrees of the numerator and denominator polynomials are related. Some simple examples are provided. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 183–91. Monash University, Clayton, Victoria, Australia.

Neftçi, S. N.—Lead-Lag Relations, Exogeneity, and Prediction of Economic Time Series

In what sense, of the two time series under consideration, is the one that "leads" useful in predicting the one which "lags"? Is there any relationship between a series that leads and a series that is "econometrically exogenous"? The paper investigates these issues and concludes that there is no one-to-one correspondence between "leading" and "exogenous" time series. Empirical tests and out-of-sample forecasts using the U.S. leading indicators are also supplied. *Econometrica*, Jan. 1979, *47*(1), pp. 101–13. George Washington University, Washington, D.C.

Plosser, C. I.—Short-term Forecasting and Seasonal Adjustment

This article explores the stochastic properties and prediction performance of several economic time series, both before and after adjustment by the U.S. Bureau of the Census X-11 seasonal adjustment program. The results suggest that within the class of autoregressive-integrated-moving-average models, seasonally adjusted data do not yield consistently im-

proved predictions and, in many circumstances, produce forecasts that are less accurate than those obtained using the unadjusted data. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 15–24. University of Rochester, Rochester, New York.

Reinsel, G.—Maximum Likelihood Estimation of Stochastic Linear Difference Equations with Autoregressive Moving Average Errors

A method is proposed for the estimation of a general class of scalar linear time-series models. The model takes the form of a stochastic difference equation for the dependent variable with exogenous variable inputs, and the disturbances are autocorrelated through an autoregressive moving average process. In the present paper an asymptotically efficient yet computationally simple estimation procedure (in the time domain) is derived for this model. The resulting estimator is shown to be asymptotically equivalent to the maximum likelihood estimator and to possess a limiting multivariate normal distribution. *Econometrica*, Jan. 1979, *47*(1), pp. 129–51. University of Wisconsin, Madison.

Reinsel, G. C.—A Note on the Estimation of the Adaptive Regression Model

The estimation of the parameters in the adaptive regression model is considered. The approach to the estimation problem differs from that of T. F. Cooley and E. C. Prescott since a simple differencing transformation is used to obtain an ordinary regression model with first-order moving average errors. A major advantage of this approach (besides computational advantages) is that the assumption of the adaptive regression model can be at least partially verified from the data by considering the adequacy of fit of the first differences to the implied regression model with first-order moving average error structure. This approach is also used to derive the optimal predictors of the time-varying intercept series. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 193–202. University of Wisconsin, Madison.

Riddell, W. C.—The Use of the Stepwise Chow Test

In the structural change literature, one of the most difficult problems is that of estimating break points when both the number of regimes and the location of the break points are unknown. Since this will frequently be the case in practice, any procedure that appears to have potential for dealing with the problem deserves to be examined closely. This paper conducts such an examination of the recently advocated "stepwise Chow test." The examination reveals that this procedure is not, in general, correct. Examples of the way in which the method breaks down are given. *Econ. Stud. Quart.*, Dec. 1978, *29*(3), pp. 242–47. University of Alberta, Edmonton.

Spitzer, J. J.—Small-Sample Properties of Nonlinear Least Squares and Maximum Likelihood Estimators in the Context of Autocorrelated Errors

Potluri Rao and Zvi Griliches (1969) compared several methods of parameter estimation in models having autocorrelated errors. They concluded that nonlinear least squares estimators were not superior to two-stage linear estimators. This study partially replicates the Rao and Griliches Monte Carlo simulation and, in addition, examines the maximum likelihood estimator as a possible competitor. The simulation results are not consistent with those of Rao and Griliches; the small-sample efficiency of nonlinear and maximum likelihood estimators appears to be consistently high and thus reverses some of Rao and Griliches's conclusions. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 41–47. State University of New York, Brockport.

Thursby, J. G.—Alternative Specification Error Tests: A Comparative Study

This paper compares the power of the test RESET to that of a number of autocorrelation tests in detecting the errors of omitted variables or incorrect functional form in regression analysis. The autocorrelation tests considered are the Durbin-Watson test and a chi-square test on the first H autocorrelations in the residual vector. Monte Carlo experiments reveal that the RESET test is the most powerful test for detecting specification errors and is robust to autocorrelation. *J. Amer. Statist. Assoc.*,

March 1979, *74*(365), pp. 222–25. Ohio State University, Columbus.

Tsurumi, H.—A Bayesian Test of a Parameter Shift in a Simultaneous Equation with an Application to a Macro Savings Function

A Bayesian test of a parameter shift in two simultaneous equations is derived under the assumption of heteroskedasticity. No solutions paralleling this Bayesian solution to the Behrens–Fisher problem in the simultaneous equation framework are available from sample theory. The Bayesian test is then applied to examine a parameter shift in a macro savings function in Japan. The empirical test indicates that a parameter shift occured in the 1970's. *Econ. Stud. Quart.*, Dec. 1978, *29*(3), pp. 216–30. Rutgers University, New Brunswick, New Jersey.

Wecker, W. E.—Predicting the Turning Points of a Time Series

Linear least-squares prediction methods are not directly applicable to the prediction of time-series "turning points." In this paper the linear least-squares technique is extended to allow computation of the distribution of the turning points of a time series, conditional on past observations. The method is illustrated using quarterly seasonally adjusted GNP. *J. Bus.*, Jan. 1979, *52*(1), pp. 35–50. University of Chicago.

Zellner, A. and Park, S.-B.—Minimum Expected Loss (MELO) Estimators for Functions of Parameters and Structural Coefficients of Econometric Models

Further sampling properties of previously derived Minimum Expected Loss MELO estimates for reciprocals and ratios of parameters and for structural coefficients of econometric models are presented. Approximate small-sample moments and risk functions of MELO estimators for these problems are derived and compared with those of other well-known estimators. The exact finite sample distribution of the MELO reciprocal mean estimator is derived and compared with that of the maximum likelihood estimator. Properties of alternative structural coefficient estimators are compared with those of the MELO estimator, both theoretically and in terms of two applications. *J. Amer. Statist. Assoc.*, March 1979, *74*(365), pp. 185–93. University of Chicago.

212 Construction, Analysis, and Use of Econometric Models

Tan, K. C.—Optimal Control of Linear Econometric Systems with Linear Equality Constraints on the Control Variables

This paper describes the solution for the optimal control of linear econometric systems with a quadratic welfare function when there are linear equality constraints on the control variables. This solution is of the same form as the optimal control problem when there are no constraints on the control variables. The principle of certainty equivalence and the separation theorem are shown to be applicable without any change. Examples of control problems where such constraints are important and relevant are given. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 253–58. University College, London.

213 Mathematical Methods and Models

Dechert, D.—Optimal Control Problems from Second-Order Difference Equations

We derive sufficient conditions such that the solution of a second order difference equation is also the solution of an optimal control problem. The technique is to find an objective function of an optimal control problem whose Euler equation is the given second order difference equation. The method of solution uses line integrals to derive the objective function. An application is given to a competitive industry in temporary dynamic equilibrium. The derived objective function demonstrates the welfare economics principle that consumer surplus, producer surplus, and labor surplus are maximized in competitive equilibrium. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 50–63. University of Southern California, Los Angeles.

Epstein, L. G.—The Le Chatelier Principle in Optimal Control Problems

The paper formulates and establishes a form of the Samuelson–Le Chatelier Principle for optimal control problems. The solutions of a constrained and unconstrained planning problem depend upon a vector of parameters, and the responses of the solutions to changes in

the parameters are compared. Under certain circumstances the optimal planning profile of the unconstrained problem is shown to be more sensitive to parameter changes than the profile corresponding to the constrained problem. The principal method of analysis is comparative dynamics. The scope of the analysis is illustrated by an application of the results to two standard economic problems of intertemporal optimization. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 103–122. Institute for Policy Analysis, University of Toronto.

Watkins, T. H.—On the Reformulation of Optimization Problems in Which the Action Variables are Not the Objective Function Arguments

Optimization problems in which the arguments of the objective function are not the action variables include problems of capital stock and investment, durable goods' services and purchases, and spillover effects. The optimality conditions for these problems in their original form are very cumbersome analytically. A transformation yields optimality conditions involving only objective function arguments. The optimal levels of the objective function arguments must be orthogonal to every vector in the null-space of the linear transformation relating the action variables to the objective function arguments. Typically this involves a cyclical time pattern for the optimal levels of objective function arguments. *Southern Econ. J.*, April 1979, *45*(4), pp. 1151–59. San José State University, California.

220 Economic and Social Statistical Data and Analysis

Renshaw, E. F.—Some Notes on the Commerce Department's Index of Leading Economic Indicators

The new index of leading indicators has a propensity to decline more often than is warranted on the basis of actual recessions. The incidence of false signals can be reduced by only considering those cases where four months have gone by without a new high being registered in the index and those instances of a cumulative decline from the preceding historical peak amounting to three points or more. *Neb. J. Econ. Bus.*, Winter 1979, *18*(1), pp. 15–24. State University of New York at Albany.

221 National Income Accounting

Clark, C. G.—Wages and Profits

No claim is made to establish a production function, but if we can assume (both assumptions questionable) that (i) wages and profits are *proportionate* to relative marginal productivities (ii) technical progress is Hicks-neutral, then the long-run wage/profit ratio should be in a double-log linear relationship with the capital/labor input ratio, the slope of the relationship depending on capital/labor substitution elasticity. This is found to be strikingly confirmed (with elasticity well below 1) on a rearrangement of C. H. Feinstein's data, going back to the middle of the nineteenth century, for factor incomes and inputs (public sector, agriculture, and domestic service excluded). *Oxford Econ. Pap.*, Nov. 1978, *30*(3), pp. 388–408. University of Kent at Canterbury.

Hartog, J. and Veenbergen, J. G.—Dutch Treat, Long-run Changes in Personal Income Distribution

This paper presents data on personal income distribution in the Netherlands for the period 1914–72, in terms of decile income shares and measures of dispersion. Estimates are given of the trend and of cyclical sensitivity of income inequality, both trend and cycle being far more important before 1940 than after. Attempts to explain changes in inequality by regression analysis, with a necessarily limited set of variables, lead to many rejections. *De Economist*, 1978, *126*(4), pp. 521–49. Erasmus University, Rotterdam.

Petersen, H.-G.—Effects of Growing Incomes on Classified Income Distributions, the Derived Lorenz Curves, and Gini Indices

This study indicates the problems connected with the intertemporal comparability of Lorenz curves and Gini indices estimated by standard numerical approaches in the case of the classified empirical income distribution and a growth of individual income at a fixed rate. "Collector effects" of the higher class intervals lead to shifts of the Lorenz curve to the right or to the left; accordingly, the Gini

index may rise or fall. This "class phenomenon" occurs although actually nothing has changed in distribution. Additionally this paper represents an extrapolation method for classified empirical income distributions, which has been illustrated on actual German income tax data. *Econometrica,* Jan. 1979, *47*(1), pp. 183–98. Kiel Institute of World Economics, University of Kiel, Federal Republic of Germany.

Siegel, J. J.—Inflation-Induced Distortions in Government and Private Saving Statistics

This study reformulates the National Income Accounts definitions of the government deficit and gross private saving. These new definitions are based on employing the change in the real value of government debt, due to price and interest rate changes, as a measure of the real deficit rather than the real value of the nominal debt change, as is now calculated by the Department of Commerce. The major empirical differences in the revised statistics are a larger deficit during the Depression years and a much smaller deficit during inflationary periods, particularly during World War II and recent years. The redefined gross private saving ratio is reduced in periods of inflation and displays the same variability as the national savings rate instead of the significantly lower variability reported by the traditional statistics. In the postwar data, there is a significant negative correlation between the national saving rate and the reformulated gross private savings ratio. *Rev. Econ. Statist.,* Feb. 1979, *61*(1), pp. 83–90. Wharton School, University of Pennsylvania.

224 National Wealth and Balance Sheets

Horsman, E. G.—Inheritance in England and Wales: The Evidence Provided by Wills

This paper, using data derived from an analysis of random samples of wills in different size-of-estate ranges in England and Wales for 1973, casts doubt on the conclusions of some earlier studies about the effects of estate duty on the equality of wealth-holding but supports the view that testators tend strongly to keep wealth within their families. It throws light on numerous other matters, including the incidence of estate duty in different size-ranges, the frequency of trusts, the analysis of main beneficiaries and bequests to charity. *Oxford Econ. Pap.,* Nov. 1978, *30*(3), pp. 409–22. University of Kent at Canterbury.

226 Productivity and Growth: Theory and Data

Ezaki, M.—Growth Accounting of Postwar Japan: The Input Side

In this paper, a new methodological framework of growth accounting is presented on the basis of input-output tables, and the growth performance of Japanese industries as well as aggregate economy is analyzed in detail for the postwar period. Changes in the input coefficients are also investigated, theoretically and empirically, for the Japanese manufacturing industries, decomposing them into substitution effect due to changes in input prices, specific effect caused by biased technical progress, and common effect due to neutral technical progress. The theoretical outcome here is closely related to the RAS method. *Econ. Stud. Quart.,* Dec. 1978, *29*(3), pp. 193–215. The Center for Southeast Asian Studies, Kyoto University.

Hulten, C. R.—On the "Importance" of Productivity Change

This paper suggests a framework for measuring the importance of productivity change as a source of economic growth using prices and quantities alone. It is based on an intertemporal specification of technology closely related to the framework proposed by Edmund Malinvaud. An effective rate of productivity change is defined to be the residual growth in wealth not explained by the change in primary input, and is then related to the intertemporal production possibility frontier. Since capital accumulation is endogenous in this framework, the dynamic residual measures the impact of productivity change inclusive of the induced accumulation of capital. *Amer. Econ. Rev.,* March 1979, *69*(1), pp. 126–36. The Urban Institute, Washington, D.C.

May, J. D. and Denny, M.—Post-War Productivity in Canadian Manufacturing

Productivity in aggregate Canadian Manufacturing is measured from 1948–76. Total factor productivity including intermediate inputs is estimated and compared to simpler meas-

ures of productivity. The theoretical framework is based on developments on exact and superlative index numbers by W. E. Diewert (1976) and others. Errors arise from the use of real value-added. The sensitivity of the estimates to alternative measures of labor and capital services is investigated. For our sample the use of real value-added overestimated productivity. Our estimates were not sensitive alternative labor measures but were too sensitive to variations in the measurement of capital services. *Can. J. Econ.*, Feb. 1979, *12*(1), pp. 29–41. Memorial University, St. John's, Newfoundland; University of Toronto.

227 Prices

Ray, G. F.—Export Prices of Primary Producers

A note describing the details of a new index system of commodity prices based on UNCTAD's indices of market prices of the principal commodity exports of developing countries, introduced in this issue. This replaces the old National Institute of Economic and Social Research commodity price index. *Nat. Inst. Econ. Rev.*, Feb. 1979, (87), pp. 57–60. National Institute of Economic and Social Research, London.

229 Micro-data

Shinkai, Y.—An Analysis of the Bank of Japan's Business Survey Data

In this paper an attempt has been made to analyze the Bank of Japan's business survey data with a view to learning something about how expectations on macro variables are formed and to estimate realization functions for a subset of the macro variables. We have found that there are pieces of evidence that expectation formations are affected by factors other than the past values of the own series, and that realization functions, which include several variables other than the own expectation, perform fairly well. An implication of these results will be that it is not appropriate to estimate simultaneously a behavior function and a simple expectation function by substituting the unobservable expectation variable into the behavior function, as is sometimes done in practice. *Econ. Stud. Quart.*, Dec. 1978, *24*(3), pp. 231–41. Osaka University.

300 Domestic Monetary and Fiscal Theory and Institutions

310 Domestic Monetary and Financial Theory and Institutions

311 Domestic Monetary and Financial Theory and Policy

Barro, R. J.—Money and the Price Level under the Gold Standard

This paper analyzes the determination of the price level and the quantity of money under the gold standard and related commodity standards (bimetallism, symmetallism, commodity-reserve-currency). The principal analysis is carried out for a closed economy where the central bank supports the nominal price of a reserve commodity such as gold. Effects on the price level and money supply are considered for the cases of gold discoveries or technical changes in gold mining, real income changes, "paper gold" issue, shifts in the gold price, and movements in velocity. The analysis is extended to an international setting to discuss the effects of devaluation, increased adoption of the gold standard, and multiple commodity standards. The final section compares the gold standard with alternative commodity standards, including commodity-reserve-currency. *Econ. J.*, March 1979, *89*(353), pp. 13–33. University of Rochester, Rochester, New York.

Calvo, G. A.—On Models of Money and Perfect Foresight

The paper studies questions of existence and uniqueness of perfect foresight paths in a world of identical and infinitely-lived families that attempt to maximize a sum of utilities that depend on consumption and real monetary balances. We find cases of nonuniqueness when money enters into production functions, but we also show that the presence of neoclassical capital may help ensuring uniqueness. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 83–103. Columbia University.

Felmingham, B. S. and Bennett, P. A.—Monetary Policy Reaction in an Interdependent Instrument Setting

Policy reaction equations are fitted for the statutory reserve deposit (SRD) and open-market instruments (OMO). The interest rate is

treated exogenously. The policy regime envisaged accommodates interdependencies between the instruments. The study is based on quarterly data over the period 1961–74. The results demonstrate a marked difference in the form of the policy response for the two instruments: the SRD instrument responds strongly to the domestic targets, inflation, and unemployment; but shows little response to external factors. The OMO instrument reacts to external influences, but not to the domestic targets, a result consistent with the policy-makers desire to sterilize exogenous influences on the cash-base of the economy. The OMO instrument has a strong association with the interest rate reflecting its market orientation and the political costs of adjusting it. The interest rate proxy is not significant in the SRD equation. There is some evidence for a harmonious association between the SRD and OMO instruments. Finally, the form of the response in each case varies according to the policy intent: contraction and expansion. This reflects a change in the weights attaching to the policy targets as the policy intention alters. *Econ. Rec.*, August 1978, *54*(146), pp. 264–70. University of Tasmania, Hobart.

Heller, H. R. and Khan, M. S.—The Demand for Money and the Term Structure of Interest Rates

It has been argued recently by Milton Friedman that the whole term structure of interest rates rather than any single rate represents the relevant opportunity cost of holding money. The purpose of this paper is to present a way to incorporate the term structure in the demand for money function compactly with a few parameters and offer empirical evidence for the United States over the period 1960–76 supporting the validity of such an approach. Furthermore, we establish that this function appeared to be stable during a period (1972–74) when standard functions using only one interest rate display significant shifts in parameters. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 109–29. Bank of America, San Francisco; International Monetary Fund, Washington, D.C.

Levi, M. D. and Makin, J. H.—Fisher, Phillips, Friedman and the Measured Impact of Inflation on Interest

A general equilibrium model is employed to derive a reduced-form expression for the relationship between changes in anticipated inflation and nominal interest. Changes in anticipated inflation are shown to affect the equilibrium real rate of interest due to effects upon employment and output and upon the level of uncertainty about inflation. The employment effects are shown to vary over time depending upon the size of the error of inflation forecasts employed in turn by rational suppliers of labor to determine money wage demands. Controlling for these effects when testing the Fisher hypothesis with data from the 1950's and 1960's results in a unitary impact of changes in anticipated inflation upon nominal interest. *J. Finance*, March 1979, *34*(1), pp. 35–52. University of British Columbia, Vancouver; University of Washington, Seattle.

Masson, P. R.—Structural Models of the Demand for Bonds and the Term Structure of Interest Rates

A simultaneous model of the term structure of interest rates is estimated for Canada (1968–74). Demands on the part of banks and the public for short- and long-term government bonds are based on their portfolio preferences and constrained to sum to the exogenous supply. The interest rate equations are obtained implicitly from the market-clearing conditions, and they indicate a significant role for supply variables. Comparison with unrestricted reduced-form interest rate equations points to the superiority of structural model estimation in this context. Another finding is that the lags in the equations seem not to be due to expectational or lagged adjustment delays, but rather to residual autocorrelation. *Economica*, Nov. 1978, *45*(180), pp. 363–77. Bank of Canada, Ottawa.

McCallum, B. T.—Monetarism, Rational Expectations, Oligopolistic Pricing, and the MPS Econometric Model

This paper investigates the conjecture that oligopolistic pricing behavior will invalidate the Lucas-Sargent policy-ineffectiveness proposition, even if expectations are formed rationally. The procedure is to examine the properties of an analytical macroeconomic model that

incorporates a simplified version of the M.I.T.–Penn–S.S.R.C. econometric model (MPS) wage-price sector. It is shown that the validity of the conjecture depends upon the precise manner in which lags are built into the price adjustment equation. A crucial condition is isolated and used to motivate an empirical test. The results, based on quarterly U.S. data, are predominantly consistent with the ineffectiveness proposition. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 57–73. University of Virginia, Charlottesville.

Mehra, Y. P. and Spencer, D. E.—The St. Louis Equation and Reverse Causation: The Evidence Reexamined

The "reverse causation" hypothesis claims that the St. Louis equation is misspecified because the monetary policy variables cannot be considered to be statistically exogenous with respect to GNP. This paper employs recently developed exogeneity tests to reexamine this issue. The test results do indeed suggest that the St. Louis equation is misspecified. However, this conclusion is not due to the endogeneity of the *monetary* policy variables, but rather to the endogeneity of the *fiscal* policy variables. The evidence is clearly consistent with the claim that the usual measures of fiscal policy systematically respond to changes in the level of nominal income. *Southern Econ. J.*, April 1979, *45*(4), pp. 1104–20. Pennsylvania State University, University Park; Illinois State University, Normal.

Rahmeyer, F.—Die Rolle des Staatssektors in der Marktwirtschaft—Zum ökonomischen Grundsatzkapital des Gutachtens der "Kommission für wirtschaftlichen und Sozialen Wandel" (The Role of the Public Sector in the Market Economy—A Critique of the Principle Economic Chapter of the Report of the "Commission for Economic and Social Change" in the Federal Republic of Germany)

In the actual dispute about the desirable level of public activity in the market economy of the Federal Republic of Germany, the "Commission for Economic and Social Change," a council for political advisory, recommends an extension of the share of expenditure of the state in Gross National Product (in current prices). For financing, the rising share increases in taxation are preferred to additional government borrowing. To overcome lasting unemployment and to accelerate economic growth, the Commission prefers steadily rising government expenditures in comparison with generally lowering taxes, partly by reasons of efficiency with regard to stabilization policy, partly on account of gaining a sufficient supply of public goods and services. *Konjunkturpolitik*, 1978, *24*(5–6), pp. 291–320 (German). Augsburg, Federal Republic of Germany.

Richard, S. F.—An Arbitrage Model of the Term Structure of Interest Rates

A formula for the price of default-free discount bonds of all maturities is found using a Black-Scholes type of arbitrage model, which is based on the assumption that a portfolio of three default-free discount bonds of distinct maturities can be managed to be a perfect substitute for any other default-free discount bond. The formula relates the price of bonds to the real rate of interest, the anticipated rate of inflation, and the equilibrium prices of interest rate and inflation risks. Bond prices are shown to be the expected value of the sure nominal proceeds of the bond discounted to the present at a random discount rate. It is shown that the unbiased expectations hypothesis is in general inconsistent with this model. *J. Finan. Econ.*, March 1978, *6*(1), pp. 33–57. Carnegie-Mellon University.

Sarcinelli, M.—Ruolo e limiti della politica monetaria: cosa è cambiato negli ultimi anni (Role and Boundaries of Monetary Policy: Changes in Recent Years)

Insofar as monetary policy is concerned, it has no longer been sufficient to influence the level of productive activity and, through the differentials between domestic and foreign interest rates, to influence capital movements. In practice, monetary policy has also had to undertake the task of helping to modify the real and financial flows of the economy and, to this end, has resorted to further measures including, in particular, direct controls on the structure of banks' assets. The costs for the

banks of these controls are however such as to indicate the desirability of removing the administrative constraints as soon as the conditions of the economy permit. *Bancaria*, Sept. 1978, *34*(9), pp. 863–68 (Italian). Bank of Italy, Rome.

Saunders, A.—The Short-Run Causal Relationship between U.K. Interest Rates, Share Prices and Dividend Yields

It is argued that it is important for the U.K. monetary authorities to identify the causal relationship between interest rates and share prices (yields). Using the Granger-Sims test it is found that in the short-run interest rates appear to lead share prices (yields) in a positive (negative) direction. Moreover it is found that these relationships are largely independent of inflation and inflationary expectations. It is concluded that, in the short-run at least, an increase in interest rates may well have a net expansionary effect. A case that is the reverse of that normally considered. *Scot. J. Polit. Econ.*, Feb. 1979, *26*(1), pp. 61–71. New York University.

Saving, T. R.—Money Supply Theory with Competitively Determined Deposit Rates and Activity Charges

This paper investigates a monetary system without a prohibition on interest payments on checkable accounts. In such a system the current practices of pricing account activity at less than marginal cost would be eliminated. In fact, both the levels of interest paid on deposits and charges for account activity would be market determined. Using the market equilibrium conditions for the transactions and demand deposit markets, a supply of money schedule is derived. This money supply schedule is independent of the quantity of total money demanded and accordingly is an appropriate supply schedule for use in a macroeconomic model. *J. Money, Credit, Banking*, Feb. 1979, *11*(1), pp. 22–31. Texas A&M University, College Station.

Schulz, H.—Einige Anmerkungen zum internationalen Zinszusammenhang über den Eurodollarmarkt (Some Remarks on the Interdependence of International Interest Rates via the Eurodollar Market)

Foreign interest rates, especially Eurodollar rates, are supposed to determine domestic interest rates under fixed exchange rates but will leave them unaffected under flexible exchange rates. By using simple regression models, the development of short-term interest rates in West Germany under fixed exchange rates can be explained by several factors working together, but Eurodollar rates do not play an outstanding role (January 1968–February 1973). Under flexible exchange rates (April 1973–October 1976) surprisingly there is no explanation without using foreign rates. Here, too, the utilization of Eurodollar rates instead of any other foreign rate does not lead to a better explanation. *Jahr. Nationalökon. Statist.*, Oct. 1978, *193*(5), pp. 406–26 (German). Münster, Federal Republic of Germany.

312 Commercial Banking

Graddy, D. B. and Kyle, R., III—The Simultaneity of Bank Decision-making, Market Structure and Bank Performance

The purpose of this article is to consider the effect of the simultaneity of bank decisions on empirical studies of market structure and bank performance. When banks are viewed as multiproduct, multifactor firms, hypotheses can be formulated about the simultaneous nature of bank decision-making and about the junctures at which market structure may influence bank behavior. The simultaneity question has important implications for the statistical analysis of structure-performance links in banking. A simultaneous equation model was specified and estimated. The results support the hypothesis of the interdependence of banker's decisions. *J. Finance*, March 1979, *34*(1), pp. 1–18. Middle Tennessee State University, Murfreesboro.

Kane, E. J. and Buser, S. A.—Portfolio Diversification at Commercial Banks

Financial firms intermediate not only in issuing indirect debt, but also in floating common stock. For firm-produced diversification to benefit stockholders, intermediaries must be able to build or maintain security portfolios more cheaply than their shareholders can on their own. We contend that focusing on the mar-

ginal costs and benefits of institutional investment opportunities can explain differences in the number of securities held in real-world portfolios. We test this contention empirically via a regression equation modelling the number of distinct issues of Treasury and federal-agency debt held in a time series of cross sections of large U.S. commercial banks. *J. Finance*, March 1979, *34*(1), pp. 19–34. Ohio State University, Columbus.

Richter, R.; McMahon, P. C. and Regier, H. J.—Determinants of Free Liquid Reserves in West Germany, 1960–1972

The paper considers the commercial banks' demand for free liquid reserves. The free liquid reserves in the West German sense are those assets held by the banks that can be converted at any time into central bank money. The dependent variable is the free liquidity ratio, and a partial stock adjustment model is applied. During a period of inactive *Bundesbank* policy, a profit theory hypothesis is supported, and when the *Bundesbank* intervenes actively, support is found for a need theory of free liquid reserves. *Z. ges. Staatswiss.*, 1978, *134*(4), pp. 686–702. University of Saarbrücken, Federal Republic of Germany; University of Birmingham, England; University of Saarbrücken.

313 Financial Markets

Ball, R.—Anomalies in Relationships between Securities' Yields and Yield-Surrogates

A literature survey reveals consistent excess returns after public announcements of firms' earnings. If the information in publicly-announced earnings is a public good, then these results seem inconsistent with equilibrium in the securities market: public goods, being without private cost, should earn no private return. Alternative explanations of this anomaly are considered. The most likely explanation is that earnings variables proxy for omitted variables or other misspecification effects in the two-parameter model: that the measured market portfolio is not mean-variance efficient. Similar anomalies and explanations apply to other "yield-surrogates," including dividend yields and Value Line ratings. *J. Finan. Econ.*, June/Sept. 1978, *6*(2/3), pp. 103–26. Australian Graduate School of Management, University of New South Wales, Kensington, Australia.

Brennan, M. J. and Schwartz, E. S.—Alternative Investment Strategies for the Issuers of Equity Linked Life Insurance Policies with an Asset Value Guarantee

An earlier paper derived an investment strategy for an insurance company, which would eliminate the risks associated with the sale of equity linked life insurance policies with an asset value guarantee. This paper explores whether this riskless investment strategy has any practical utility, in view both of the impossibility of effecting continuous portfolio adjustment and of the costs of making discrete adjustments. By simulating the returns to issuers of these policies under different investment strategies, it is found that discrete approximations to the riskless strategy do indeed reduce considerably the risk of extreme losses. *J. Bus.*, Jan. 1979, *52*(1), pp. 63–93. University of British Columbia, Vancouver.

Charest, G.—Split Information, Stock Returns and Market Efficiency–I

This is the first part of a study about common stock returns around split events (part I) and dividend change events (part II) as revealed in the 1947–67 experience of the New York Stock Exchange. Competing estimates of abnormal returns (residuals) are obtained and compared. Trading rules, involving fixed and variable monthly investments, are tested for profitability. Trading triggered by split proposals, dividend increases and, in particular, dividend decreases yields significant residuals and would thus point to market inefficiencies. Some drifting in the samples' average risk and residual behavior is explained in terms of risk measurement and two-factor market model characteristics. Residuals hardly change when risk adjustment is based on variance of returns in lieu of beta. The question is raised that the residual approach may at times prove unduly refined. Yet a multi-method approach to risk-return studies seems advisable because the odd behavior found one way can often be fruitfully explained or confirmed through comparisons with results obtained another way. In part I outstanding features are: (1) the stocks' average

excess returns in the three months following split proposals differ from zero but the anomaly hinges on the results for a rather short time sub-period; (2) numerous pitfalls in measuring and interpreting stocks' residuals are brought into light. Part II is the subject of a companion article in this issue of the Journal. *J. Finan. Econ.*, June/Sept. 1978, *6*(2/3), pp. 265–96, Laval University, Quebec City.

Chiras, D. P. and Manaster, S.—The Information Content of Option Prices and a Test of Market Efficiency

The Black-Scholes option pricing model, as generalized for dividend payments by R. C. Merton, is used to calculate implied variances of future stock returns. These variances are found to be better predictors of future stock return variances than those obtained from historic stock price data. A trading strategy is developed that exploits the informational content of the implied variances. The trading strategy, contrary to the efficient market hypothesis, produces abnormally high returns. *J. Finan. Econ.*, June/Sept. 1978, *6*(2/3), pp. 213–34. University of Florida, Gainesville.

Cox, J. C.; Ingersoll, J. E., Jr. and Ross, S. A.—Duration and the Measurement of Basis Risk

This paper criticizes the traditional measures of duration in their role of the measurement of basis risk. Using the methodology of continuous-time diffusion models, a theoretically superior measure of basis risk is proposed instead. The properties of this new measure are discussed and compared to those of the traditional measures for a specific example. *J. Bus.*, Jan. 1979, *52*(1), pp. 51–61, Stanford University; University of Chicago; Yale University.

Ederington, L. H.—The Hedging Performance of the New Futures Markets

In this paper the relatively new futures markets in Ginnie Mae Pass-Through Certificates and in Treasury Bills are evaluated as instruments for hedging portfolios of these securities against fluctuations in market value. A measure of hedging effectiveness is derived from the hedging models of L. L. Johnson and J. L. Stein, and is applied to biweekly and monthly data for the January 1976–December 1977 period. For comparison purposes, the wheat and corn futures are evaluated in the same manner. *J. Finance*, March 1979, *34*(1), pp. 157–70. Georgia State University, Atlanta.

Galai, D.—Empirical Tests of Boundary Conditions for CBOE Options

In this paper the lower boundary conditions for traded options are derived and subjected to empirical testing. Two hypotheses are formulated based on the theoretical conditions and tested on data on call options traded on the Chicago Board Options Exchange. The first hypothesis argues that the stock and options markets are well synchronized so that simultaneous closing prices are within the theoretical boundaries. The evidence in the *ex post* test is inconsistent with this hypothesis. The second hypothesis claims the markets to be efficient. The tests are directed toward the question whether arbitrage profits could actually have been made on the Exchange by exploiting the violations of the dominance condition. The tests, carried out as *ex ante* tests, indicate that positive profits could have been exploited on the average, but the magnitude of the average was small relative to the dispersion of the yields. *J. Finan. Econ.*, June/Sept. 1978, *6*(2/3), pp. 187–211. The Hebrew University, Jerusalem.

Garbade, K. D.; Pomrenze, J. L. and Silber, W. L.—On the Information Content of Prices

This paper presented empirical tests of the proposition that prices contain information. Our particular application considered the special case of whether securities dealers acquire valuable information from observation of the reservation purchase and sale prices of their competitors, and whether they are led to change their own quotations as a function of those observations. To test the hypothesis we developed a unique data base from a market where the process of acquiring new information may be modelled as a discrete search phenomenon. Our results lead us to reject the hypotheses that observed prices convey no information and that the mean observed price contains all information. Dealers do acquire new information from their competitors, but

they do not consistently treat their own information as redundant after obtaining their competitors' prices. We are also led to reject the hypothesis that the mean observed price conveys all information even in the special case where all observations are identical. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 50–59. New York University; Bankers Trust Company; New York University.

Garman, M. B.—The Pricing of Supershares

The new "supershare" securities proposed by N. Hakansson (1977, 1976) are subject to the same sort of riskless-hedge combinations as are other forms of secondary securities such as stock options. In consequence, the prices of supershares must, even in the absence of distributional assumptions, obey certain pricing relationships with each other and with the underlying primary security. When the primary security is assumed, in addition, to follow a geometric Brownian motion process, exact supershare valuation formulas of the Black-Scholes (1973) type are obtained. The "hedge portfolio algebra" of Garman (1976) is employed to make the analysis concise. *J. Finan. Econ.*, March 1978, *6*(1), pp. 3–10. University of California, Berkeley.

Hamilton, J. L.—Marketplace Fragmentation, Competition, and the Efficiency of the Stock Exchange

Off-board trading of listed stocks potentially has two opposite effects: (1) it could increase competition for the exchange specialist or (2) it could reduce the efficiency of the exchange by fragmenting the trading volume among several marketplaces. The empirical estimates reported in this paper show that competition tends to reduce the specialist bid-ask spreads and the daily stock returns variances by more than fragmentation tends to increase them. Equally important, since neither effect is large, off-board trading seems to have limited policy importance. Econometric models of the determinants of bid-ask spreads and daily stock returns variances estimate the effects. *J. Finance*, March 1979, *34*(1), pp. 171–87. Wayne State University, Detroit.

Hilliard, J. E.—The Relationship between Equity Indices on World Exchanges

Studies of world capital market efficiency have typically focused on the merits of diversification, the co-movement of equity prices, or the lead-lag relationship among market indices. This paper uses cross-spectral analysis of monthly data to investigate the lead-lag structure among equity indices during the period surrounding the OPEC embargo. Findings indicate that "intra-continental" markets are closely coupled with no significant real-time lag. With some exceptions, "inter-continental" markets do not appear to be closely related. *J. Finance*, March 1979, *34*(1), pp. 103–14. University of Georgia, Athens.

Manaster, S.—Real and Nominal Efficient Sets

This paper proves that the real and nominal efficient sets are either identical or disjoint. If they are identical, the expected return and risk of any asset is uniquely determined by the covariance of its rate of return with the inflation rate. If the two efficient sets are disjoint, the traditional capital asset pricing model (CAPM) cannot be correct on a real and nominal basis simultaneously. Therefore if one accepts the CAPM on a nominal basis, he must reject it on a real basis or accept some very strong and counterintuitive statements regarding the importance of inflation in the capital market. *J. Finance*, March 1979, *34*(1), pp. 93–102. University of Florida, Gainesville.

Rutledge, D. J. S.—Estimation of Hedging and Speculative Positions in Futures Markets: An Alternative Approach

Estimation of hedging and speculative commitments in futures markets is necessary to enable the commercial value of these markets to be assessed and also to facilitate analysis of the price effects, if any, of speculative behavior. Published data provide these figures for large traders only. This paper provides a technique for allocating the non-reporting positions into their hedging, speculative, and spreading components, making use of statistical methods for allocating a predetermined aggregate. This technique is shown to yield improved estimates of traders' commitments over those previously available. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 205–11. Macquarie University, Sydney, New South Wales.

Thompson, R.—The Information Content of Discounts and Premiums on Closed-End Fund Shares

This paper investigates the extent to which discounts and premiums provide information about future expected rates of return on closed-end investment company shares. It is found that discounted fund shares, adjusted for risk, tended to outperform the market in the period 1940 to 1975. Funds selling at a premium appear to have been bad investments over the same time period. On the basis of these results it is argued that the two-parameter capital asset-pricing model does not describe the return generating process of closed-end funds. Other potential areas to search for breakdowns in two-parameter pricing are suggested. *J. Finan. Econ.*, June/Sept. 1978, *6*(2/3), pp. 151–86. Carnegie-Mellon University.

Watts, R. L.—Systematic 'Abnormal' Returns after Quarterly Earnings Announcements

Numerous studies observe abnormal returns after the announcement of quarterly earnings. R. Ball (1978) suggests those returns are not evidence of market inefficiency, but instead are due to deficiencies in the capital asset-pricing model. This paper tests whether abnormal returns are observed when steps are taken to reduce the effect of deficiencies in the capital asset-pricing model. Significant abnormal returns are observed, but do not cover the transactions costs unless one can avoid direct transactions costs (*e.g.*, a broker). The paper also investigates whether those abnormal returns can be attributed to a deficiency in the capital asset-pricing model. The conclusion is they cannot. *J. Finan. Econ.*, June/Sept. 1978, *6*(2/3), pp. 127–50. University of Rochester, Rochester, New York.

320 Fiscal Theory and Policy; Public Finance

321 Fiscal Theory and Policy

Chan, K. S.—A Behavioral Model of Bureaucracy

This paper develops a static behavioral model of bureaucrats and voters. The concept of a "social contract curve" between voters and bureaucrats (with taxation on one axis and government service on the other) is introduced. A set of (very general) sufficient conditions for the growth of bureaucracy are derived and discussed in the paper. *Southern Econ. J.*, April 1979, *45*(4), pp. 1188–94. Saint Mary's University, Halifax, Nova Scotia.

Cordes, J. J. and Weisbrod, B. A.—Governmental Behavior in Response to Compensation Requirements

The amount of compensation paid to those harmed by public activities is thought to influence mainly the distributional consequences of public programs. This paper uses a simple model of bureau behavior to examine the response of a public agency to changes in compensation requirements. Under some circumstances, changes in compensation requirements will induce agencies to change both the level and mix of public output. Tests of these predictions using data on U.S. highway construction suggest that the presence of compensation requirements can affect the real output decisions of public agencies and not simply the distributional consequences of their decisions. *J. Public Econ.*, Feb. 1979, *11*(1), pp. 47–58. George Washington University, Washington, D.C.

Fellingham, J. C. and Wolfson, M. A.—The Effects of Alternative Income Tax Structures on Risk Taking in Capital Markets

This paper investigates the effects of proportional and progressive taxes on investor demand for capital assets. Investors who are otherwise indifferent to fair gambles are shown to require a risk premium to induce them to hold risky assets when returns are subject to progressive taxes. Risk-neutral investors would find it optimal to hold diversified portfolios, since this maximizes expected after-tax returns. When investors are risk-averse to begin with, the paper shows that for an important special case, the demand for risky assets decreases in the face of a progressive tax, whereas proportional taxes increase the desirability of holding risky investments. *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 339–47. University of Texas, Austin; Stanford University.

Guesnerie, R.—Financing Public Goods with Commodity Taxes: The Tax Reform Viewpoint

This article considers an economy in which there is one public good financed by means of commodity taxes (lump sum transfers being not available). The first part of the paper is devoted to the study of tax equilibria. Sufficient conditions for the existence of an equilibrium with respect to a given tax system are given. When the tax system is modified, the structure of the corresponding set of tax equilibria is analyzed, and continuity properties of equilibria (with respect to the tax system) are stated. In the second part, attention is focused on the Pareto ranking of tax equilibria. In a given equilibrium, the directions of policy tools changes for a Pareto improvement (if any) are characterized. The "size" of the set of second best Pareto optima in the set of tax equilibria is evaluated. *Econometrica*, March 1979, *47*(2), pp. 393–421. CEPREMAP and CNRS, Paris.

Holcombe, R. G.—Public Choice and Public Spending

The median voter model, which is central to much of the public finance—public choice literature, predicts that under a system of majority rule, the alternative most preferred by the median voter will be chosen. This article demonstrates that when tax shares can be proposed as a part of a political platform, the party preferring a relatively high level of expenditures will have an advantage in winning elections. Furthermore, the level of government expenditures will be higher than if tax shares could not be included as a part of political platforms. After deriving this conclusion, the paper explores some implications of the finding. *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 373–83. Auburn University, Alabama.

Lloyd, P. J.—Wage Indexation: The Treatment of Public Sector Taxes and Goods

This paper considers the problem of constructing an index, in the presence of a large public sector, which will indicate whether any adjustment to wages or other payments to households in one situation will leave the households better or worse off than in some previous situation with a different set of prices. This index is an extension of the true price index. The paper also proposes an index of the affordable wages with which the first index should be compared. *Econ. Rec.*, August 1978, *54*(146), pp. 182–94. Australian National University, Canberra.

Longo, C. A.—Tax Coordination under Benefit Taxation

A standard result that emerged from the literature on international tax harmonization is that changes in the principle of border tax adjustments do not have, in the long run, allocative effects on the trade flow of the countries involved, provided that taxes are truly general, factors of production are immobile between countries, and international trade is balanced. In this paper we show that dropping the assumption that international trade is balanced, the choice of border tax adjustments may become dependent on both the benefits of public expenditures as between consumers and producers, and the tax-induced change in absolute price level. By introducing the expenditure side of the public budget we propose here a set of rules that can be used to define a neutral system of interjurisdictional tax coordination, as it applies to product taxation. *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 385–89. *Fundação Instituto de Pesquisas Econômicas*, São Paulo.

Mathews, R.—Federal Balance and Economic Stability

The paper examines the concepts of and the conditions for vertical and horizontal fiscal balance in a federal system, with special reference to intergovernmental grants arrangements and the effects of open-ended settlements on the stability of the system. The notions of vertical balance, horizontal balance, and open-endedness are then applied to other aspects of economic policy, in particular the formulation of budgetary policy by a single government and the settlement of wage claims. It is suggested that economic instability in Australia during recent years has been associated with two forms of horizontal imbalance, resulting from institutional factors that have encouraged open-endedness in the process of determining budget priorities on the one hand and open-endedness in wage bargaining on the other. *Econ. Rec.*, August 1978, *54*(146), pp. 170–81. Australian National University, Canberra.

323 National Taxation and Subsidies

Giertz, J. F. and Sullivan, D. H.—Housing Tenure and Horizontal Equity

While the differential treatment of homeowners as compared to renters under the federal income tax laws is recognized as a source of horizontal inequity, the exact nature of this inequity has been spelled out only for the situation where both the owner and renter itemize their deductions. In this paper, we present a more complete analysis of the problem taking explicit account of the availability of the standard deduction. In addition, the less frequently analyzed problem of equity among homeowners in the treatment of housing *vs.* non-housing assets is examined. The paper concludes with an analysis of the horizontal equity effects of certain proposed "reforms." *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 329–38. Miami University, Oxford, Ohio.

Hamermesh, D. S.—New Estimates of the Incidence of the Payroll Tax

This study takes a new approach to empirical examination of tax incidence, basing the empirical work on equations describing individuals' earnings. The data are for 1973 from the Panel Study of Income Dynamics; they cover 587 male workers; and the presence of data for these men for 1967–1972 enables us to estimate the time path of shifting. The shifting process is fairly rapid; nearly 80 percent of that part of the tax that is shifted is done within one year of its imposition. The results show that little more than one-third of the employer's old-age, survivors, disability, and health insurance (OASDHI) contribution is shifted back onto labor. The rest is either passed on to consumers or borne entirely by owners of capital. *Southern Econ. J.*, April 1979, *45*(4), pp. 1208–19. Michigan State University, East Lansing.

McLure, C. E., Jr.—A Status Report on Tax Integration in the United States

Recent years have seen considerable interest in the integration of the corporate and personal income taxes. Full integration, under which corporate-source income would be taxed only to shareholders, has significant economic advantages, but it suffers from severe practical difficulties. Some but not all of its advantages could be realized through dividend relief. Alternative means of providing dividend relief include a deduction for dividends paid, application of a lower corporate rate to distributed income than to retained earnings, and allowing shareholders a dividend-received credit for corporate taxes imputed to have been paid on their behalf. The proper treatment of tax preferences and international flows of corporate-source income raise important issues of tax administration and public policy. It is necessary, for example, to decide whether tax preferences are to be passed through to shareholders or nullified when preference income is distributed. Beyond that, "stacking rules" are required for the presumptive allocation of dividends between preference and taxable income. Further research on both economic effects and administrative feasibility is necessary for an adequate appraisal of integration. *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 313–28. National Bureau of Economic Research, London.

324 State and Local Government Finance

Pack, H. and Pack, J. R.—Metropolitan Fragmentation and Local Public Expenditures

Household demands for public goods are estimated and used to test three hypotheses: (1) the Tiebout hypothesis, which implies that all households within a community have similar demands for publicly provided goods, which in turn reflects the absence of variation in the underlying income and house prices within the community; (2) the Lindahl model, which suggests that communities consist of households with similar public goods demands despite variations in their income or tax prices; and (3) strategic fiscal behavior in which households attempt to form communities such that intracommunity redistribution is avoided. Very wide variation in demands for public goods is found within communities. There is also evidence that despite substantial income heterogeneity, there is some effort to reduce intracommunity redistribution. *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 349–62. Swarthmore College; University of Pennsylvania.

400 International Economics

Ohlin, B.—1933 and 1977—Some Expansion Policy Problems in Cases of Unbalanced Do-

mestic and International Economic Relations

This is a reprint of Bertil Ohlin's Nobel Memorial Lecture, reproduced with the permission of the Nobel Foundation. The lecture considers two cases of serious international depressions in countries with an essential orientation towards a market economy: in the first half of the 1930's and in the middle of the 1970's. Ohlin discusses Keynesian and Stockholm models for expansion of output and employment, the relative size of inflation and of production growth when national income in monetary terms is expanded, and the results of insufficient adaptations of international cost relations. *Scand. J. Econ.*, 1978, *80*(4), pp. 360–74. Stockholm.

410 International Trade Theory

411 International Trade Theory

Anderson, J. E.—A Theoretical Foundation for the Gravity Equation

The gravity equation is a great example of successful measurement without theory. This paper builds a foundation in economic theory for a gravity-type approach to modelling commodity flows. The gravity equation is derived from an expenditure system. Use of the gravity equation in estimation is shown to have efficiency properties at a possible cost of bias. Finally, the expenditure system explanation for the gravity model suggests modifications in specification and estimation. *Amer. Econ. Rev.*, March, 1979, *69*(1), pp. 106–16. Boston College, Chestnut Hill, Massachusetts.

Das, S. P. and Lee, S.-D.—On the Theory of International Trade with Capital Mobility

The objective of this paper is to reconsider stability of equilibrium and the implications of a change in tariffs in a two-country model of trade and capital mobility, using a generalized two-sector, three-factor model instead of the Heckscher-Ohlin model traditionally used. Also, we analyze the "true" dynamic stability as compared to the "imperfect" stability examined in Kemp's text. In contrast to M. C. Kemp's analysis, we have been able to obtain precise qualitative statements for both the questions of stability and effects of a change in tariffs. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 119–32. University of Wisconsin, Milwaukee; Southern Methodist University, Dallas.

Ethier, W.—Internationally Decreasing Costs and World Trade

This paper seeks to reformulate the existing theory of international trade and increasing returns by arguing that such returns depend upon the size of the world market rather than national output. The result is the disappearance of the tendency towards interindustry specialization and multiple equilibrium and the emergence of a theory of trade in intermediate goods. A new analytical tool—the allocation curve—is developed for this context. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 1–24. University of Pennsylvania.

Falvey, R. E.—Trade Policies and Industrialisation

In this paper, the three commodity model of F. H. Gruen and W. M. Corden is used to examine the effects of import restriction policies designed to promote industrial development. It is shown, that under circumstances which might reasonably be expected to exist in developing economies, such policies will likely appear successful in the short run, but may fail in the long run if the import-competing sector's expansion is largely achieved by the diversion of resources from an infant manufacturing sector producing exportables. An export subsidy is the more appropriate policy under these circumstances. *Econ. Rec.*, August 1978, *54*(146), pp. 256–60. Tulane University, New Orleans, Louisiana.

Fishelson, G. and Hillman, A.—Domestic Monopoly and Redundant Tariff Protection

This paper examines the redundancy of tariff protection when there is a single domestic monopolist producer. The cases where the monopolist exports in free trade and where he confronts import competition are distinguished, and a general rule characterizing water-in-the-tariff in protected equilibrium is derived. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 47–55. Tel-Aviv University, Ramat-Aviv.

Hartwick, J. M.—Distribution of World Income in the Ricardo-Mill Model of International Trade

Changes in the distribution of world income and in relative per capita welfare in response to exogenous changes in country size are investigated in a two-country, many commodity, Ricardo-Mill model of international trade. This inquiry was opened by R. Dornbusch, S. Fischer, and Paul Samuelson for the case of a continuum of commodities. Attention here is focused on the two and three commodity cases and how the production possibility set changes as commodities becomes neighbors in the continuum. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 117–26. Queen's University, Kingston, Ontario.

Jarchow, H.-J. and Möller, H.—Bestimmungsgründe der Zentralbankgeldmenge und Steuerungsmöglichkeiten: Eine theoretische und ökonometrische Analyse für die Bundesrepublik (The Determinants of the "Zentralbankgeldmenge" and Ways and Means of Its Control: A Theoretical and Econometric Analysis for the Federal Republic of Germany)

Since 1975 the *Deutsche Bundesbank* has fixed the rate of increase for the *"Zentralbankgeldmenge."* Besides considering the demand for central bank money, we particularly examine the influence of a so-called "modified basis," which is closely related to the concept of the *Bundesbank "Zentralbankgeldschaffung und Liquiditätsreserven."* An econometric analysis for the period January 1968 to July 1977 shows that the *"Zentralbankgeldmenge,"* besides depending on interest and income effects, is strongly influenced by clearly preceeding values of the "modified basis." This suggests that the *"Zentralbankgeldmenge"* can be controlled by using the "modified basis" as a short-term target. *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 308–27 (German). Göttingen, Federal Republic of Germany.

Johnson, R. R.—The Effect of Variation in Foreign Production on Domestic Factor Prices

In this article, the effects of random versus nonrandom foreign production on the average commodity price ratio and on average domestic factor prices are examined within the context of the Heckscher-Ohlin framework. It is shown that the average price ratio is changed when production is random. Thus, the condition derived by Murray C. Kemp and Chulsoon Khang (*Journal of International Economics*, 1975, *5*, pp. 255–61) for expected factor prices to be changed when the commodity price ratio is random, must be altered in accordance with the Stolper-Samuelson theorem. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 81–87. University of San Diego.

Murray, T.; Schmidt, W. and Walter, I.—Alternative Forms of Protection against Market Disruption.

Increasingly, voluntary export restraints (VER's), orderly marketing arrangements (OMA's), and other forms of restrictions implemented under duress by exporting countries are supplanting explicit trade barriers imposed by importing nations. Textiles, footwear, consumer electronics and steel are some of the product groups affected in recent years. It is frequently alleged that such "voluntary" controls are less trade-restrictive than outright quotas imposed on imports. This paper shows that, if export licenses are themselves tradable and subject to monopolization, precisely the opposite will tend to be the case. Even greater restrictiveness may occur when multiple products are covered by a single OMA or VER. *Kyklos*, 1978, *31*(4), pp. 624–37. University of Arkansas, Fayetteville; Virginia Polytechnic Institute and State University, Blacksburg; New York University.

Neary, J. P.—Capital Subsidies and Employment in an Open Economy

This paper examines the effect of a sector-specific capital subsidy on (a) employment in the subsidized sector, (b) the capital-labor ratio in the subsidized sector, and (c) the level of employment in the economy as a whole. These questions are examined in the light of recent work on the positive theory of factor market distortions, and that theory is extended to allow for intersectoral capital immobility and variable aggregate factor supplies. Some consideration is also given to the by-product distortion costs of financing the subsidy, and to the welfare implications of the use of such measures to generate employment. *Oxford Econ. Pap.*, Nov. 1978, *30*(3), pp. 334–56. Nuffield College, University of Oxford.

Schmitt-Rink, G.—Über Neo-Ricardianische Aussenhandelsmodelle (On Neo-Ricardian Models of International Trade)

According to some Neo-Ricardian authors, the international division of labor is considered advantageous if in the case of specialization per capita, consumption is higher than in the case of autarky, the rate of growth being given. The international specialization could (1) increase per capita consumption in both countries even if they apply the same fixed coefficient technique and (2) decrease per capita consumption in both countries provided they use different techniques before and after specialization. The first of these propositions is, however, wrong, and the second proposition is correct only in the context of neoclassical rather than Neo-Ricardian assumptions. *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 328–40 (German). Bochum, Federal Republic of Germany.

Schweinberger, A. G.—The Theory of Factor Price Differentials: The Case of Constant Absolute Differentials

Making use of the concept of a weakly bowed-out upper boundary of the transformation set, the paper shows that if differentials are absolute exogenous factor price differences, the generally agnostic conclusions of the literature, with regard to the *ceteris paribus* own supply responses and the effects of changes in differentials on employment levels of factors, are no longer justified. The implications of these results for the normative theory of factor price differentials and the relationship between the theory of factor immobility and factor price differentials are also analyzed. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 95–115. University of Western Australia, Nedlands.

Seton, F.—Devaluation Packages in Small Countries

Devaluation-induced price rises in the traded goods sectors of a small country may be counteracted either by a policy of holding money wages steady or by attempts to stabilize the price level of non-traded goods. If full employment is maintained, the effects of either policy on the balance of trade are found to be closely linked to the relative labor-intensities of the traded- and non-traded goods sectors. The paper formalizes the verbal parts of an article by Ronald Jones and W. Max Corden in the *Canadian Journal of Economics* (February 1976) and seeks to throw light on certain paradoxical conclusions that seem to flow from it. In the process the analysis reveals itself as a special case of the familiar dependence between relative product- and factor prices associated with the names of Heckscher-Ohlin and Stolper-Samuelson. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 100–112. Nuffield College, University of Oxford.

420 Trade Relations; Commercial Policy; International Economic Integration

Weisskoff, R.—Trade, Protection and Import Elasticities for Brazil

This study aligns pieces of the complicated protective structure for Brazil from 1953 to 1970, a period of fluctuating multiple exchange rates and tariff variations. The author makes four contributions by: (1) Tracing annual tariff and exchange rate changes for 463 commodities in 9 use classes; (2) constructing a comprehensive index for import prices, tariffs, and exchange rates relative to domestic prices; (3) estimating *price*, income, and time elasticities of import demand, the last variable capturing the effects of import substitution or dependency for each use class; (4) including a dummy variable for the military dictatorship. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 58–66. Iowa State University, Ames.

421 Trade Relations

Abbott, P. C.—Modeling International Grain Trade with Government Controlled Markets

Government interventions have a pervasive impact on international grain trade; yet, models of the trade treat the role of government as an exogenous influence. A model endogenizing government is presented as an alternative to spatial equilibrium trade models. That model also is used to interpret parameters in a net import demand model and to argue that the effect of international prices and production on trade often will be smaller than what is derived from domestic supply and demand equations. Econometric evidence sup-

porting that contention is presented for trade in wheat and feed grains by 33 countries. *Amer. J. Agr. Econ.*, Feb. 1979, *61*(1), pp. 22–31. Northeastern University, Boston.

Appelbaum, E. and Kohli, U. R.—Canada-United States Trade: Tests for the Small-Open-Economy Hypothesis

Most studies in international trade assume price-taking behavior in external markets (small-open-economy hypothesis). Little is known, however, about the extent to which an open economy is indeed small. This paper sets out a procedure to test this hypothesis by allowing for noncompetitive markets. If competitive behavior is rejected in an external market, the small-open-economy hypothesis must be rejected as well. In the case of Canada in its trade with the United States, we find that departures from competitive behavior are significant in the export market and insignificant in the import market. *Can. J. Econ.*, Feb. 1979, *12*(1), pp. 1–14. University of Western Ontario, London, Canada; University of Lausanne, Switzerland.

Baldwin, R. E.—Determinants of Trade and Foreign Investment: Further Evidence

On the basis of an investigation of the commodity trade patterns of some 30 countries, using U.S., EEC, and Japanese capital/labor ratios and interindustry relationships, it appears that the so-called Leontief paradox is not simply a U.S. phenomenon. Other industry characteristics besides capital/labor ratios are also used to explain the commodity composition of these countries' trade. In addition, various industry characteristics are related to the relative importance of direct foreign investment by different U.S. industries. The results of this analysis generally conform to expectations. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 40–48. University of Wisconsin-Madison.

Prewo, W.—Determinants of the Trade Pattern among OECD Countries from 1958 to 1974

This study examines structural changes in the pattern of bilateral trade flows in a multicountry trade network. The theoretical specification includes supply and demand conditions and trade resistance factors as determinants of bilateral trade flows. Transport costs are incorporated into the analysis through an errors-in-variables specification. The elasticities of trade flows with respect to supply, demand, and trade resistance factors are estimated from yearly cross-section data for OECD countries for the period from 1958 to 1974. The effects of supply and demand conditions on trade flows remain stable, while the effects of trade resistance factors exhibit interesting variations. *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 341–58. University of Texas, Austin.

Stern, R. M.; Baum, C. F. and Greene, M. N.—Evidence on Structural Change in the Demand for Aggregate U.S. Imports and Exports

Earlier work on U.S. import demand suggests that structural change may have occurred sometime in the mid-1960's. Since this evidence was based upon a somewhat arbitrary splitting of the sample period, the dating of change is uncertain. In this paper, we investigate the question of structural change for both U.S. imports and exports, using a procedure that lets the data determine if and when structural change may have occurred. We find weak evidence of structural change for imports in the mid-to-late 1960's and much stronger evidence in 1972.1 and thereafter. There is no evidence of structural change for exports. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 179–92. University of Michigan, Ann Arbor; Boston College; University of Michigan, Ann Arbor.

422 Commercial Policy

Meade, J.—A Strategy for Commodity Policy

This paper outlines a possible structure of commodity policies based upon a combination of buffer stock schemes, price-compensation schemes, and compensatory finance for the balance of payments of developing countries. It excludes the use of simple price-maintenance or restriction schemes, arguing for a bargain between the developed and the developing countries under which the latter exclude the use of such schemes in return for freedom of entry of their products (whether foodstuffs, raw materials, or manufactures) into the developed countries. Possible measures for the fi-

nance of the schemes are outlined. *Scand. J. Econ.*, 1978, *80*(4), pp. 349–59. Cambridge, England.

Tarr, D. G.—Cyclical Dumping: The Case of Steel Products

Recently a number of studies have argued that foreign steel manufacturers use their export prices in relation to their domestic prices to smooth out fluctuations in home market demand. This phenomenon is called cyclical dumping. It is shown that the price discriminating monopolist model explains dumping, but its predictions with respect to cyclical dumping are ambiguous. Tests are performed for the United States, Japan, and the European Community for each of three representative steel products. At conventional significance levels, the cyclical dumping hypothesis is rejected in all cases. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 57–63. Federal Trade Commission, Washington, D.C.

423 Economic Integration

Collier, P.—The Welfare Effects of Customs Union: An Anatomy

The paper offers a critique of the orthodox analysis of the welfare effects of customs union and proposes a new taxonomy, retaining the standard neoclassical framework. The critique centers upon the level of aggregation of commodities. It is shown that results are highly sensitive to different levels of aggregation and that the conventional two or three good models must be rejected, since five aggregates are required to capture all welfare effects. The traditional concepts of trade creation and diversion are shown to be inapplicable in such a model, and a new classification is suggested. *Econ. J.*, March 1979, *39*(353), pp. 84–95. Institute of Economics and Statistics, University of Oxford.

Tovias, A.—Effets de l'intégration économique dans un pays pratiquant le dumping à l'exportation: Une contribution à la Théorie des Unions douanières (Effects of the Economic Integration in a Country Practising Export-Dumping: A Contribution to the Theory of Customs-Unions)

Starting with the assumption that certain developing countries practice monopolistic price discrimination in order to favor exports towards the markets of the developed countries, it can be shown by means of a partial equilibrium model that the producers of the developing countries could accept giving up this practice in return for an agreement of regional liberalization of the trade with developed countries. This operation can yet lead to a net loss of welfare for the citizens of the developing countries in question. The existence of previous dumping would therefore help to explain the recent increase of regional free-trade agreements. *Schweiz. Z. Volkswirtsch. Statist.*, March 1979, *115*(1), pp. 1–14 (French). University of Geneva.

430 Balance of Payments; International Finance

Black, S. W.—Policy Responses to Major Disturbances of the 1970s and Their Transmission through International Goods and Capital Markets

The paper examines the major disturbances affecting the eight largest industrialized countries during the 1970's, their internal and external policy targets, their macroeconomic and balance-of-payments policy reactions, and the market responses to these disturbances and policies. It is concluded that economic policies and market responses magnified the expansionary effects of the 1971–72 dollar outflow, since it came during a cyclical trough. Policies and market responses cushioned the contractionary impact of the 1974 oil price increase, as it came after a cyclical peak. The effects of floating exchange rates are evaluated and found to have mixed results because too much reliance has been placed on them. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 614–41. Vanderbilt University, Nashville.

Hickman, B. G. and Schleicher, S.—The Interdependence of National Economies and the Synchronization of Economic Fluctuations: Evidence from the LINK Project

In this paper we summarize and interpret multiplier simulations from Project LINK—a world system of national and regional econometric models linked by trade flows and

prices—concerning own and partner-country responses of real incomes and prices to various shocks at home and abroad. These simulations are complemented by a historical analysis of the synchronization of growth cycles among 16 industrialized countries and with econometric evidence on reserve-sterilization policies in the same countries. The normally incomplete international synchronization of cycles is consistent with the LINK findings of generally weak cross-country multipliers. The provisional evidence of pervasive sterilization of reserve flows confirms an implicit assumption of the LINK simulations and also explains the comparative lack of synchronization among the monetary bases of the countries. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 642–708. Stanford University; University of Graz, Austria.

431 Balance of Payments; Mechanisms of Adjustment; Exchange Rates

Beenstock, M. and Bell, S.—A Quarterly Econometric Model of the Capital Account in the U.K. Balance of Payments

A model of U.K. capital flows is derived and estimated over the period 1963–74. The model covers both short- and long-term flows and trade credit, integrating the forward exchange market in an analysis of covered and uncovered interest rate arbitrage. Exchange rate expectations are modeled explicitly (applying the "rational" expectations hypothesis) and estimates are obtained of the slope of the speculative demand schedule in both spot and forward markets. Estimates of the effects of relative interest rates and trade flows on capital flows are also reported, but attempts to incorporate wealth effects were largely unsuccessful. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 33–62. London Graduate School of Business Studies, England. H. M. Treasury, London.

Coppock, D. J.—Further Thoughts on the Monetary Approach to Balance of Payments Theory

Essentially a mathematical supplement to an earlier paper (*The Manchester School*, *46*(3), pp. 186–208), which presented a critical appraisal of the monetary approach to balance-of-payments theory as set out by Harry Johnson. Shows that it is possible to get a complete reconciliation between a monetary theory of adjustment and an "elasticity" theory when the latter is set up properly in a general equilibrium framework. The standard Marshall-Lerner result is derived for a general equilibrium model which takes full account of cross-elasticity effects. Particular attention is given to the analysis of foreign exchange rate changes made necessary by changes in tastes. *Manchester Sch. Econ. Soc. Stud.*, March 1979, *47*(1), pp. 1–23. University of Manchester, England.

Fair, R. C.—A Model of the Balance of Payments

A model of the balance of payments is presented in this paper in which stock and flow effects are completely integrated. The model accounts for all flows of funds in the system and allows for the endogenous determination of the exchange rate. The model is first outlined in general terms and then a particular "quasi-empirical" version of it is analyzed by means of simulation techniques. The results of analyzing this version show the likely importance of accounting for capital flows and price linkages among countries in the construction of multicountry econometric models. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 25–46. Yale University.

Heller, H. R. and Khan, M. S.—The Demand for International Reserves under Fixed and Floating Exchange Rates

The purpose of this paper is to examine whether the change in the international monetary system in 1973 from par value exchange rates to managed floating resulted in a shift in the demand for international reserves, and also whether one could identify a stable function in the period of floating. Tests performed for various country groupings covering the period 1964–76 showed what appeared to be a once-and-for-all structural change in 1973 in the demand for reserves by industrial countries, but no indication of change in the basic relationship explaining reserve holdings of the less developed countries. *Int. Monet. Fund Staff Pap.*, Dec. 1978, *25*(4), pp. 623–49 (summaries in French and Spanish). Bank of Amer-

ica, San Francisco; International Monetary Fund, Washington, D.C.

Korkman, S.—The Devaluation Cycle

This paper analyzes the employment and growth effects of devaluations. The framework of analysis is the familiar two-sector model, with tradables and nontradables, generalized so as to deal with the process of capital accumulation. According to the formulated model, devaluations do not have long-run growth or employment effects but may well be a source of fluctuations. The model is consistent with Finnish experiences as well as with the view on the "devaluation cycle" that has recently emerged among Finnish economists. The relation between the present model and R. M. Goodwin's theory of the growth cycle is discussed. *Oxford Econ. Pap.*, Nov. 1978, *30*(3), pp. 357–66. University of Helsinki.

Levin, J. H.—The International Assignment of Stabilization Policies under Fixed and Flexible Exchange Rates

This paper investigates the ability of policymakers to achieve stabilization targets in the face of spillover effects from abroad. In the context of a two-country Keynesian model, each country's stabilization policy turns out to have a comparative advantage over domestic economic activity under fixed exchange rates and sterilization. By assigning policy domestically, both employment targets can be eventually achieved despite trade linkage spillovers. The same conclusion is reached for the case of floating exchange rates despite spillover effects associated with capital mobility. Finally, it is discovered that coordination under fixed exchange rates may benefit one country and injure the other. *J. Int. Econ.*, Feb. 1979, *9*(1), pp. 65–80. Wayne State University, Detroit.

Lipschitz, L.—Exchange Rate Policies for Developing Countries: Some Simple Arguments for Intervention

This paper examines stabilization policy options in an open, less developed economy, with particular emphasis on exchange rate policy as an instrument of stabilization. It is argued that shocks originating in aggregate demand should be dealt with by flexible exchange rates; shocks originating in supply by intervention in the exchange market to maintain a fixed exchange rate. Where both types of domestic shock occur, a managed floating system is called for, with the extent of intervention positively related to the predominance of supply shocks. Terms-of-trade shocks add additional complications. *Int. Monet. Fund Staff Pap.*, Dec. 1978, *25*(4), pp. 650–75 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

Murray, G. L.—Monetary Policy and Capital Inflow

Capital inflow has been depicted in the model developed by Pentti Kouri and Michael Porter as being determined exclusively by monetary forces, with GNP entering the equation through its impact on the demand for money. If this is correct, disaggregation of GNP should have little effect on the estimates of response parameters in the model. It is found that replacing GNP by investment and non-investment spending has a significant effect on the estimates, suggesting that capital inflows have direct purposes, which are not well represented in a purely monetary model. An attempt is made to construct a money policy equation as the second part of a simultaneous system depicting the interplay of monetary policy and capital inflow. In spite of claims to the contrary, it is found that simultaneous estimation gives results that differ considerably from those of single equation methods. *Econ. Rec.*, August 1978, *54*(146), pp. 271–80. University of Western Australia, Nedlands.

Porter, M. G.—External Shocks and Stabilization Policy in a Small Open Economy: The Australian Experience

We analyze the transmission of the international resulting monetary cycle, policy responses, and other feedback mechanisms. Changes in terms of trade and mineral discoveries introduce real linkages. Tardy revaluation (1972) allowed excessive monetary growth with sterilization delaying, but ultimately aggravating, inflation and external imbalance. The combination of revaluation, tariff cuts, in-

flation, wage pressure, and changing comparative advantage all contributed to subsequent inflation, unemployment, and external deficits. Devaluation in 1974 and 1976 and a change of government in 1976 continued the politico-economic cycle. Finally, we interpret events using conventional trade models augmented by asset market considerations. *Weltwirtsch. Arch.*, 1978, *114*(4), pp. 709–35. Yale University.

Sauernheimer, K.—Ineffizienz der Geldpolitik bei flexiblen Kursen? Bemerkungen zu einem Beitrag von Niehans (Inefficacy of Monetary Policy under Flexible Exchange Rates? A Note)

Expansionary monetary policy under flexible exchange rates may result in a contraction of income if foreign trade elasticities are small and speculation is stabilizing. This result is based on some critical stability conditions: Speculative net capital imports must outweigh the deterioration of the trade balance, following the devaluation of the home currency. Interest elastic net capital exports must be small. If they are, however, too small, falling income cannot be explained. So we find only a small range of values for the elasticity of international capital movements allowing, in a stable model, income to fall following expansionary monetary policy. *Jahr. Nationalökon. Statist.*, Dec. 1978, *193*(6), pp. 518–21 (German). Johannes Gutenberg University, Mainz, Federal Republic of Germany

Tullio, G.—Monetary Equilibrium and Balance-of-Payments Adjustment: An Empirical Test of the U.S. Balance of Payments, 1951–73

This paper develops a two-area model of the world in the spirit of the monetary approach to the balance of payments and tests the implications of the approach for a large reserve currency country like the United States. The empirical tests confirm that developments in the money markets were very important, that the U.S. overall balance fluctuated procyclically, and that yearly changes in relative price levels, in relative interest rates, and in the effective exchange rate of the dollar affected the U.S. balance of payments in a manner contrary to the predictions of competing partial equilibrium theories. *J. Money, Credit, Banking*, Feb. 1979, *11*(1), pp. 68–79. Bank of Italy.

Witte, W. E.—Dynamic Adjustment in an Open Economy with Flexible Exchange Rates

This paper develops a relatively simple dynamic model of an open economy with a flexible exchange rate, which is integrated with world markets in both goods and assets. The model is used to examine the adjustment paths of real income, the price level, and the exchange rate to policy changes and to exogenous external shocks. The model indicates that fiscal policy can be used to increase income in both the short- and the long-run, while monetary policy has only short-run real effects. Exchange rates tend to react to exogenous disturbances with sudden discrete movements, followed by further fluctuations. *Southern Econ. J.*, April 1979, *45*(4), pp. 1072–90. Pennsylvania State University, University Park.

432 International Monetary Arrangements

Magnifico, G. and Saccomanni, F.—Verso un nuovo ruolo del Fondo Monetario Internazionale (Towards a New Role for the International Monetary Fund)

The recent entry in force of the amended charter of the IMF, has given rise to new functions in the Fund relating to the control of interest rates and regulation of international liquidity. The control functions refer to all of the economic policies pursued by the member countries instead of, as in the past, solely foreign exchange market intervention policies: they are of the view that this new approach is the only one suitable for promoting effective symmetry of the payments disequilibria adjustment obligations, both of deficit and surplus countries. As regards the regulation of international liquidity, the liquidity creation and distribution mechanisms have gained increasing importance. The possibility should be examined of establishing a "substitution account," with the IMF empowered to issue reserve assets denominated in SDR's for substitution of dollar balances held by monetary authorities. *Bancaria*, Nov. 1978, *34*(11), pp. 1060–67 (Ital-

ian). Bank of Italy, Rome; International Monetary Fund, Washington, D.C.

Scaperlanda, A.—The IMF: An Emerging Central Bank?

In support of the argument that in the post-Bretton Woods era the International Monetary Fund has rapidly acquired the characteristics of a central bank for national central banks, this article surveys the Fund's expansion of its financial intermediation and lending activities. Also the conditions of the January 1977 standby arrangement with the United Kingdom, the Fund's influence over large commercial banks, the new system of valuing Special Drawing Rights (SDR's), the actual and potential new uses of SDR's, and the recast mission of the Fund, which is codified in the Second Amendment to its Articles of Agreement, support the basic argument. *Kyklos, 31*(4), 1978, pp. 679–90. Northern Illinois University, De Kalb.

440 International Investment and Foreign Aid

441 International Investment and Capital Markets

Globerman, S.—Foreign Direct Investment and 'Spillover' Efficiency Benefits in Canadian Manufacturing Industries

The existence of indirect economic benefits of foreign direct investment in Canada is investigated for a sample of Canadian manufacturing industries. Estimates of labor productivity in domestically-owned plants are constructed and employed as the dependent variable, and various measures of foreign ownership are included among the independent variables in the estimating equations. Labor productivity differences across Canadian-owned plants are found to be positively related to an industry's capital intensity, plant-scale economies, labor quality, average hours worked per employee and to the amount of foreign ownership in an industry. *Can. J. Econ.*, Feb. 1979, *12*(1), pp. 42–56. York University; Toronto.

442 International Business

Baker, J. C. and Ryans, J. K., Jr.—Multinational Corporation Investment in Less Developed Countries: Reducing Risk

This article examines the Convention for the Settlement of Investment Disputes between Nationals and Other States and the International Centre for the Settlement of Investment Disputes as means for reducing conflict arising from the implementation of international investment policy by multinational companies and for supplementing codes of conduct under which they are being asked to operate. Such a means of risk reduction, particularly in an era of greater corporate dealings in less developed countries, should be of particular interest to today's multinational companies' top management. *Neb. J. Econ. Bus.*, Winter, 1979, *18*(1) pp. 61–69. Kent State University, Kent, Ohio.

Howenstine, N. G.—Gross Product of U.S. Affiliates of Foreign Companies

Estimates of gross product of U.S. affiliates of foreign companies in 1974 are presented with industry, country of foreign parent, and component detail, and compared with all U.S.-business gross product. Affiliates accounted for 2 percent of all U.S.-business gross product; affiliates' shares were largest in petroleum exploration, extraction, refining, and processing (16 percent) and chemicals manufacturing (12 percent). The employee compensation share of gross product was smaller for affiliates than for all U.S. businesses, reflecting differences in industry mix and significantly lower compensation shares in manufacturing for affiliates than for all U.S. businesses. *Surv. Curr. Bus.*, Jan. 1979, *59*(1), pp. 28–36. Bureau of Economic Analysis, U.S. Department of Commerce, Washington, D.C.

Kardasz, S. W.—The Capital-Stock Decision of Subsidiaries

The paper analyzes the financial effects of centralized control on the capital-stock decision of a subsidiary of a multinational enterprise. First to be examined is the capital-stock decision of an independently-managed going-concern that can employ debt as well as internal and external equity financing. It is then assumed that two such firms located in two countries merge. By comparing the pre- and post-merger equilibrium values of the marginal cost of capital, it is shown that the effects of centralized decision-making depend on circumstances that are specified. *Econ. Inquiry,*

Jan. 1979, *17*(1), pp. 114–24. University of Waterloo, Ontario.

Whichard, O. G.—Employment and Employee Compensation of U.S. Affiliates of Foreign Companies, 1974

Employment and compensation per employee (CPE) of U.S. affiliates of foreign companies are compared with those of all U.S. businesses; regional patterns in affiliate employment and wages and salaries per employee are analyzed; and size distributions of affiliate employment and CPE are examined. Affiliate employment was about 2 percent of all U.S.-business employment; affiliate CPE exceeded all U.S.-business CPE by about $800, largely because affiliate employment was concentrated in high-compensation industries. Affiliate employment, like all U.S.-business employment, was concentrated in the Mideast, Southeast, and Great Lakes. Most affiliates had 100 or fewer employees and paid CPE of between $8,001 and $16,000 per year. *Surv. Curr. Bus.*, Dec. 1978, *58*(12), pp. 23–34, 58. Bureau of Economic Analysis, U.S. Department of Commerce, Washington, D.C.

500 Administration; Business Finance; Marketing; Accounting

510 Administration

512 Managerial Economics

Kania, J. J. and McKean, J. R.—Decision-Making in the Extensive Firm

A simulation model is developed to analyze the behavior of the oligopolistic firm. A quasi-political utility function relating managerial satisfaction to profit, growth, and dividend payout is constrained by a financial and by an efficiency-market relationship. Management is assumed to desire first to survive and secondly to prosper. Their utility function reflects the concept of threats to their security, which arise both from market and extra-market sources. Computer solutions for a cubic function resulting from the constrained maximization of managerial utility lead to implications for profit and growth performance under various scenarios of market and extra-market influence. *Neb. J. Econ. Bus.*, Winter 1979, *18*(1), pp. 25–42. University of Nebraska, Lincoln; Colorado State University, Fort Collins.

514 Goals and Objectives of Firms

Dunning, J. H. and Stillwell, F. J. B.—Theories of Business Behaviour and the Distribution of Surplus Profits

This paper attempts a partial reformulation of the theory of the firm around the central issue of the distribution of profits. According to the institutional, market, and purchasing environment in which they operate, the firms can generate surplus profits. Depending on their bargaining strength, participants in the firm *viz*—management, shareholders, customers, labor, and suppliers of other inputs—can share in this surplus by securing payments above opportunity costs. The paper (i) presents a taxonomy of business conduct for incorporating the distribution of profits into existing explanations, (ii) examines the extent to which these explanations require modification if this is done, (iii) explores the determinants of the relative bargaining strengths of the stakeholders, and (iv) suggest some implications for future studies of business behavior. *Kyklos*, 1978, *31*(4), pp. 601–23. University of Reading, England; University of Sidney, Australia.

520 Business Finance and Investment

521 Business Finance

Baron, D. P.—On the Relationship between Complete and Incomplete Financial Market Models

This paper considers Roy Radner's incomplete financial market model and indicates that if production sets but not consumption sets are spanned by the return vectors available in the securities market, an incomplete market equilibrium is not an Arrow-Debreu equilibrium but *ex ante* unanimity regarding production plans results when consumers act as price-takers with respect to their marginal rates of substitution. Unanimity corresponds to value maximization in this case, but in the absence of price-taking behavior unanimity can still be obtained by evaluating consumer preferences *ex post* as in the models of H. E. Leland and S. Ekern and R. Wilson. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 105–17. Northwestern University, Evanston, Illinois.

Copeland, T. E.—Liquidity Changes Following Stock Splits

One frequently hears that stocks split in order to move the price into an "optimal" price range where more people can afford to purchase round lots. This, in turn, allegedly creates a wider or more liquid market for trading. Empirical evidence presented in this paper demonstrates the opposite. Namely, that (1) trading volume increases less than proportionally following a stock split, (2) that brokerage revenues increase, and (3) that bid-ask spreads (as a percentage of the bid price) increase in the post-split era. Taken together, these results lead to the conclusion that post-split liquidity is relatively lower than pre-split liquidity. *J. Finance,* March 1979, *34*(1), pp. 115–41. University of California, Los Angeles.

Livingston, M. B.—Bond Taxation and the Shape of the Yield-to-Maturity Curve

The relationship between yields to maturity for coupon-bearing bonds and discount rates for zero coupon bonds is analyzed in a world of differential taxation of coupons and capital gains. It is shown that inferences about the shape of zero coupon yield curves (the object of much inquiry in the term structure of interest rate literature) cannot be made on the basis of yield curves for coupon-bearing bonds. Consequently, existing empirical work testing theories of the behavior of zero coupon bonds, but employing coupon-bearing bond data, must be regarded with considerable reservation. *J. Finance,* March 1979, *34*(1), pp. 189–96. York University, Toronto.

Long, J. B., Jr.—The Market Valuation of Cash Dividends: A Case to Consider

Since early 1956 Citizens Utilities Company has had two classes of common stock, which are virtually identical in all respects except dividend payout. One class pays only stock dividends, the other class pays only cash dividends, and the corporate charter requires that the dividends per share on the two classes be of equivalent value. Under an I.R.S. ruling granted to Citizens Utilities in 1955 and a "grandfather clause" in the 1969 Tax Reform Act, the stock dividends are not taxable as ordinary income. (No other publicly held firm has such a ruling and, in general, the 1969 Act made stock dividends of this type taxable.) Given these circumstances, the price-dividend history of the Citizens Utilities shares provides a view of the effects of alternative payout policies which, to an exceptional degree, is free of confounding factors. Close examination of this history implies that, if anything, claims to cash dividends have commanded a slight premium in the market over claims to equal amounts (before taxes) of capital gains. *J. Finan. Econ.,* June/Sept. 1978, *6*(2/3), pp. 235–64. University of Rochester, Rochester, New York.

522 Business Investment

Aivazian, V. A. and Callen, J. L.—Investment, Market Structure, and the Cost of Capital

The traditional analysis of the firm's cost of capital assumes that the industry is perfectly competitive or in long-run steady-state equilibrium. Utilizing an optimal control framework, and assuming that future industry investment opportunities are a function of current (and past) industry investments, we show that the relationship between the firm's marginal rate of return on current investment and the rate of return required by shareholders is sensitive to its industry market structure. Optimal investment responses of a Cournot oligopolist, monopolist, and a competitive firm are contrasted, under alternative assumptions about the dynamics of the industry investment opportunities path. *J. Finance,* March, 1979, *34*(1), pp. 85–92. McMaster University, Hamilton, Ontario.

Baron, D. P.—Investment Policy, Optimality, and the Mean-Variance Model: Review Article

This paper examines the source of the Pareto inefficiency of the value-maximizing investment allocation in a mean-variance model with homogeneous expectations. With price-taking behavior by investors perceived-value maximization is shown to be Pareto optimal and unanimously supported by shareholders. The actual value-maximizing allocation is however Pareto inefficient because shareholders are assumed to behave strategically in anticipating how their implicit prices will be affected by a change in the investment allocation. The

principal assumptions used to eliminate this inefficiency are examined, and a perspective on the search for a general theory of investment for shareholder-owned firms is provided. *J. Finance*, March 1979, *34*(1), pp. 207–32. Northwestern University, Evanston, Illinois.

Hagemann, H. and Pfister, J.—Zur Relevanz des Truncation-Theorems in partialanalytischer und totalanalytischer Sicht (On the Relevance of the Truncation Theorem within a Partial and General Analytical Context)

In the first part the paper discusses the results one can draw in the partial framework if it is possible to truncate an investment project before the end of its physical lifetime at no extra cost. After analyzing the limitations of the Truncation Theorem in the case of a consequence stream following from truncation, it is shown that most of the results of the Theorem do not hold in the general framework because in the latter a variation of the discount factor, *i.e.*, the profit rate, *uno actu* implies an opposite variation of the real wage rate. *Jahr. Nationalökon. Statist.*, August 1978, *193*(4), pp. 359–79 (German). *Institut für theoretische Volkswirtschaftslehre der Christian-Albrechts-Universität*, Kiel, Federal Republic of Germany; Paderborn, Federal Republic of Germany.

Wright, F. K.—Accounting Rate of Profit and Internal Rate of Return

John Kay has shown that the d.c.f. (discounting cash flows) yield from an investment is equal to a weighted average of accounting rates of profit over the entire life of the investment. During the lifetime of the investment, however, an average of accounting rates of profit over recent periods may be a very poor approximation to the d.c.f. yield over those same periods. The main source of error is the difference between the book value and the economic value of the firm's capital stock. Estimation of that error requires a knowledge of the depreciation methods used and the time pattern of quasi-rents. *Oxford Econ. Pap.*, Nov. 1978, *30*(3), pp. 464–68. University of Melbourne.

530 Marketing

531 Marketing and Advertising

Anderson, E. E.—An Analysis of Retail Display Space: Theory and Methods

One of the most significant short-run decisions of retail management is to assemble a portfolio of product brands and determine the shares of display area that should be assigned to each. This paper develops a theoretical model of the relationship between brand market shares and share of product display space, given a profile of consumer brand preferences. An empirical measure of market-share elasticity, suggested by the theory, is statistically evaluated using experimental data. These developments are used as part of an integrated theory of the profit-maximizing allocation of product display space. *J. Bus.*, Jan. 1979, *52*(1), pp. 103–18. University of Texas, Dallas.

540 Accounting

541 Accounting

Bierman, H., Jr., and Dukes, R. E.—Limitations of Replacement Cost

Replacement cost information is of limited usefulness to investors when it is not supplemented with data regarding when the assets of the firm are expected to be replaced, as well as the degree of discretion available to management as to whether the assets are replaced. An increase in replacement costs increases assets and stockholder's equity (both increases are desirable) as well as increasing expense (which is undesirable). The conclusion as to whether a firm is being better or worse off as the result of a change in replacement cost is much more complex than merely noting the direct income statement effect. The question is raised whether the benefits achieved with the partial replacement cost data now being reported are greater than the real costs of accumulating the information. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 131–40. Cornell University.

Brooks, L. D. and Buckmaster, D.—Price-Change Accounting Models and Disaggregated Monetary Gains and Losses

The desirability of disaggregating monetary gains and losses into a separate current-item

and long-term debt component is examined. Justification for disaggregation is based on differences in financial analysis and manager controllability that exist with the two types of monetary items. The interpretation of monetary adjustments is examined by considering both real constant dollar and stated dollar effects. Separate monetary adjustments are considered as possible requirements of either a replacement cost or general price-level accounting model, although empirical tests of the potential materiality of the disaggregated adjustments are limited to the general price-level model. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 115–30. University of South Carolina, Columbia; University of Delaware, Newark.

Fabozzi, F. J. and Shiffrin, L. M.—Replacement Cost Accounting: Application to the Pharmaceutical Industry

The SEC has required that certain registrants disclose selected replacement cost information beginning with the 1976 Form 10-K reports. Replacement cost information is not available prior to the 1976 fiscal year. Angela Falkenstein and Roman Weil have developed a method for estimating replacement cost data based on published information. Using published replacement cost data and estimated replacement cost data generated from the Falkenstein-Weil method, distributable income for 17 companies in the pharmaceutical industry is compared in this article. The results suggest that for the firms examined, the Falkenstein-Weil method leads to an estimate of distributable income lower than the estimate of distributable income employing the published data for replacement cost. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 163–71. Hofstra University; Wishnick, Meisel, and Company.

Kistler, L. H. and Carter, C. P.—Replacement Cost Measures: Their Impact on Income, Dividends, and Investment Return

This paper analyzes the impact of replacement cost data reported to the SEC on the 1976 net income, dividends, and return on equity of 25 large U.S. corporations. Conventional historical cost results were compared with three alternative replacement cost models, which reflected the impact of changes in depreciation, cost of goods sold, income taxes, and the investment credit. The findings imply that selection of a replacement cost model may significantly affect comparisons between historical cost and replacement cost earnings, dividends, and return on equity. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 153–61. Lowell University, Massachusetts; Babson College, Babson Park, Maryland.

Picur, R. D. and McKeown, J. C.—Evaluation of Alternative Methods of Income Measurement via a Criterion of Managerial Ability

This study addresses the question of how accounting policy-makers can select an information system from among various alternatives, which have been suggested in the literature. These alternatives—historical cost, business profit, current operating profit, and net realizable value—are operationalized through the use of a simulation model. The simulation surrogated economic activities of a pair of firms, measured these activities through the four income concepts, and then compared each concept with the others through use of an investment decision. This decision evaluated the performance of each firm's management—solely on the basis of reported accounting income—and then invested in the firm whose accounting income indicated a higher degree of "managerial ability." The findings of this study provide additional insight to policy-makers in their determination of the "proper" accounting system to be utilized in reporting a firm's financial and managerial performance. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 75–98. University of Illinois, Chicago Circle; University of Illinois at Urbana-Champaign.

Piper, A. G.—Reporting the Effects of Inflation in Company Accounts in the United Kingdom

The reporting of the effects of inflation is illustrated by extracts from the published accounts of one United Kingdom company. The benefits of a current purchasing power (CPP) basis compared with a current value approach (CVA) basis are discussed. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 45–55. University of Birmingham, England.

Powers, M.—On the Comparability of Alternative Valuation Bases

Comparability has long been considered an important characteristic of accounting information, but, in general, interfirm and intrafirm comparability does not exist. The sources that contribute to noncomparability in the present historical cost model are identified and discussed. Also suggestions for improving comparability are made. In an effort to improve comparability, alternative valuation models, such as current replacement cost, current cash equivalent, and discounted cash flow have been proposed by various authors. However, the degree of comparability these models provide *vis-à-vis* the present accounting model has not been evaluated. Such an evaluation is a primary purpose of this paper. *Quart. Rev. Econ. Bus.*, Spring 1978, *19*(1), pp. 29–43. University of Illinois at Urbana-Champaign.

Scheiner, J. H. and Morse, W. J.—The Impact of SEC Replacement Cost Reporting Requirements: An Analysis

This article examines the results of an analysis of historical cost and replacement cost data for more than 250 manufacturing firms in 20 industries. Median industry values are used to examine differences between historical cost and replacement cost values of selected financial statement accounts. Financial statement account differences are found to be in the direction predicted by theory. An analysis is also made of performance rankings using interindustry, intraindustry, and individual firm data. In 52 out of 56 nonparametric statistical tests the performance rankings based upon historical cost data *are associated* with the performance rankings based on replacement cost data. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 141–52. University of Tennessee at Knoxville.

Schoenfeld, H.-M. W.—Development of Theory and Practice in Continental Europe

The article summarizes major accounting responses to inflation worldwide on a theoretical and practical level. It concentrates on Europe where the initial developments started after 1912. Theory developments received their major impulse from Fritz Schmidt, Frankfurt, who suggested full adjustments; the other side was represented by Eugen Schmalenbach, Cologne, who argued for indexing. Th. Limperg in the Netherlands further developed Schmidt's theory into modern replacement cost accounting. Practical applications occurred in Germany (as one-time adjustments), in France (as indexing), and in the Netherlands (as replacement costing). These methods are shown and analyzed against their economic background. Also methods of inflation adjustments for managerial accounting are examined, since these have become generally accepted in Europe. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 57–73. University of Illinois at Urbana-Champaign.

Vasarhelyi, M. A. and Pearson, E. F.—Studies in Inflation Accounting: A Taxonomization Approach

The article examines the recent literature in "inflation accounting." From an original data base of 500 articles and books, 60 are selected for additional consideration. These are classified according to methodology used and inflation accounting technique proposed (or discussed), and new classifications are presented. The article concludes with an overview of the literature and suggestions for areas of research as well as research approaches. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 9–27. Columbia University; University of Southern California, Los Angeles.

600 Industrial Organization; Technological Change; Industry Studies

610 Industrial Organization and Public Policy

611 Industrial Organization and Market Structure

Caves, R. E.—Organization, Scale, and Performance of the Grain Trade

The paradigm of market structure, conduct, and performance is adapted for application to the grain-trading industry, which has a low potential for oligopolistic interdependence performance despite the presence of some large-scale trading companies. A model explains the occurrence of the large companies on the basis of scale economies in bearing risks and coordi-

nating physical facilities that in turn depend on the characteristics of information as an input. Economies in coordinating information interact with scale economies in particular physical facilities. Empirical evidence accords with various corollaries and assumptions of this model. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 107–23. Harvard University.

Domberger, S.—Price Adjustment and Market Structure

This paper investigates the relationship between industrial structure and the speed of price adjustment. Using time-series regression estimates of price adjustment equations, measures of the rate of price change are derived for a sample of U.K. manufacturing industries. These measures are then linked cross-sectionally to indicators of industrial structure. The evidence suggests that there is a positive association between the rate of price adjustment and the level of industrial concentration. This appears to contradict the "administered prices" hypothesis, but it implies that in times of rising costs a high level of concentration will exacerbate the problem of inflation. *Econ. J.*, March 1979, *89*(353), pp. 96–108. University of Manchester, England.

Kwoka, J. E., Jr.—The Effect of Market Share Distribution On Industry Performance

This paper re-examines the relationship between market structure and industry performance using market share estimates instead of conventional concentration ratios. The top two market shares are found to exert strong effects in increasing industry price-cost margins, and a sufficiently large third firm appears capable of driving margins back down to competitive levels. Fourth and lower ranked shares have negligible impact in this industry sample. Because of the different effects of these shares, the conventional four-firm concentration ratio, which simply sums the shares, is determined to be a statistically invalid summary measure of industry structure. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 101–09. Federal Trade Commission, Washington, D.C.

Oster, G.—A Factor Analytic Test of the Theory of the Dual Economy

A test of the dual economy (*i.e.*, core-periphery) theory of industrial stratification was devised using factor analytic techniques on cross-sectional data for U.S. industries. A factor was obtained, which reflected core–periphery variation as hypothesized. Additionally, the distribution of industry (*i.e.*, factor) scores on this factor was consistent with the hypothesis of structural dualism, in that one could not reject the proposition that the non-normal sample distribution was generated by a mixture of two normal distributions—those of the core and periphery. It was concluded that the dual economy theory probably represents a viable taxonomic description of a predominant pattern of American industrial stratification. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 33–39. Baruch College of the City University of New York.

613 Public Utilities and Government Regulation of Other Industries in the Private Sector

Roberts, K. W. S.—Welfare Considerations of Nonlinear Pricing

That the pricing schedule of a public utility may be nonlinear is both an administrative possibility and practiced. This paper considers the form of the optimum nonlinear price schedule for a multiproduct utility, operating subject to a profit constraint. A duality approach is introduced to solve for the optimum schedule. Both the relationship between marginal prices faced by different individuals for the same good and between marginal prices across goods are analyzed. The paper concludes with a brief welfare analysis of monopolistic pricing schedules. *Econ. J.*, March 1979, *89*(353), pp. 66–83. Massachusetts Institute of Technology.

Tysseland, M. S. and Gandhi, D. K.—Depreciation, Inflation, and Capital Formation in Public Utilities: One Possible Approach toward a Solution

The high capital intensity of utilities, resulting in relatively high depreciation content in cost, together with regulation that requires a historical cost approach to depreciation in price, poses a difficult situation for the industry during periods of inflation. When this is combined with a high rate of growth in demand, the result is a financing problem of serious proportions. In this article, the use of price-level

depreciation, under constraints, is explored as one means of possible relief. A computer simulation model is used to test the results of the proposal under various conditions of inflation and growth. *Quart. Rev. Econ. Bus.*, Spring 1979, *19*(1), pp. 99–113. University of Calgary, Alberta.

615 Economics of Transportation

Braeutigam, R. R.—Optimal Pricing with Intermodal Competition

This analysis extends the work of William Baumol and David Bradford, on efficient pricing with a multiproduct monopoly, to include the case of intermodal competition. A set of rules is developed, showing how second best proces deviate from marginal cost when economics of scale are present. The paper shows why these rules may be difficult to implement in some cases, with a direct application to surface freight transport, and then suggests a variation in the theory of second best that may be useful given those difficulties. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 38–49. Northwestern University, Evanston, Illinois; California Institute of Technology, Pasadena.

620 Economics of Technological Change

621 Technological Change; Innovation; Research and Development

Alves, R.—Scientific Transfer—Untersuchung zur Forschungsabhängigkeit der Neuproduktplanung (Scientific Transfer—The Impact of R&D on New Product Decisions)

The article attempts to show how mathematical systems theory and model theory can be used to define a firm's objectives in new product planning and to formulate a cost-wise optimum research policy. Starting from the analysis of the firm's specific technical know-how, the research results that are necessary to solve a given problem are defined together with a measure for the probability of success of R&D projects. The outcome of the study indicates that product-oriented research planning is not only possible but also much more efficient than the usual methods, which refer to the vague concept of technical progress. *Z. ges. Staatswiss.*, 1978, *134*(4), pp. 715–39 (German). *Jülich-Stetternich,* Federal Republic of Germany.

Batavia, B.—The Estimation of Biased Technical Efficiency in the U.S. Textile Industry, 1949–1974

This study is concerned with the estimation of the type and extent of technological change in the U.S. textile industry between 1949–1974. The technological change was found to be Hicks' laborsaving; the average efficiency increase in labor was 4.1 and that of capital was 0.9 percent per year with an elasticity of substitution of 0.11. Increases in capital stock explain approximately 25 percent, and decreases in labor account for −17 percent of the growth of output. The remaining 92 percent is attributable to "technical progress" of which 9 percent is due to capital augmentation and 82 percent is due to labor augmentation. *Southern Econ. J.*, April 1979, *45*(4), pp. 1091–1103. DePaul University, Chicago.

Mansfield, E.; Romeo, A. and Wagner, S.—Foreign Trade and U.S. Research and Development

This paper presents new findings concerning (1) the importance of foreign markets and foreign utilization in the expected returns from American R&D projects, (2) the effects of decreased opportunities for international technology transfer on U.S. R&D expenditures, (3) the relationship between a firm's foreign sales and the size and characteristics of its R&D portfolio, and (4) the channels of international technology transfer used by various kinds of firms for various types of technologies. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 49–57. University of Pennsylvania.

630 Industry Studies

631 Industry Studies: Manufacturing

Page, J. M., Jr.—Economies of Scale, Income Distribution, and Small-Enterprise Promotion in Ghana's Timber Industry

This essay evaluates the success of a program undertaken by the Government of Ghana to promote the development of small-scale, indigenously owned firms in tropical timber production. The Ghanaian case is of particular interest because the central government through its timber concession and leasing policies chose to promote small enterprises in an industry characterized by modest but signifi-

cant economies of scale. Engineering estimates of market and social costs support the conclusion that the program has had high economic costs for Ghana. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 159–82. Princeton University.

Richard, D.—A Dynamic Model of the World Copper Industry

A general commodity model represented by a system of differential equations is specified around hypotheses derived from economic theory (for example, *non-tâtonnement* price mechanism, endogenous investment, price expectations). Dynamic stability and plausibility of long-run behavior are examined. Seasonal commodities are a special case of this model, which is applied to the world copper industry. Estimation by full information maximum likelihood on quarterly data of the simultaneous system of 20 first-order differential equations is carried out. Policy analysis and stabilization scheme uses based on sensitivity analysis of eigenvalues follow, and forecasting capabilities are illustrated. *Int. Monet. Fund Staff Pap.*, Dec. 1978, *25*(4), pp. 779–833 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

632 Industry Studies: Extractive Industries

Randall, A.; Grunewald, O.; Johnson, S.; Ausness, R. and Pagoulatos, A.—Reclaiming Coal Surface Mines in Central Appalachia: A Case Study of the Benefits and Costs

We report the results of a study which is addressed specifically at estimation of the benefits from surface mine reclamation in a case study region of central Appalachia. For our study region, the benefits of reclamation occurring under Kentucky regulations as currently enforced are unambiguously in excess of reclamation costs. The incremental benefits of reclamation under the federal bill as introduced in the 1977 Congress are positive and, under certain assumptions, exceed the costs. Even assuming the universal application of the best available reclamation technologies in the study region, surface mining foı coal would generate some residual external costs. *Land Econ.*, Nov. 1978, *54*(4), pp. 472–89. University of Kentucky, Lexington.

633 Industry Studies: Distributive Trades

Ambrose, D. M.—Retail Grocery Pricing: Inner City, Suburban, and Rural Comparisons

Grocery-pricing difference between inner city and suburban neighborhoods has been a repeated topic of concern and study. This current study expands upon these previous designs with the inclusion of rural areas. The data collected indicated that people in the rural areas are in the upper extreme of the price spectrum. Conversely, the inner city prices are decidedly lower than either suburban or rural grocery prices. These price differences were evident not only in the composite prices but also in the major product categories. While these results confirm the findings of prior inner city pricing practices, the disclosure of the higher prices in rural areas adds a significant dimension to pricing studies. *J. Bus.*, Jan. 1979, *52*(1), pp. 95–102. University of Nebraska, Omaha.

634 Industry Studies: Construction

Timmermann, V.; Focke, G. and Ruiz, M.—Supplementäre Strategien für Entwicklungsländer: Eine empirische Ermittlung strategischer Sektoren unter Verwendung der Input-Output-Technik (Supplementary Strategies for Developing Countries: An Empirical Determination of Strategic Sectors by Means of the Input-Output-Technique)

The paper demonstrates for six countries that the building industry is appropriate for a supplementary strategy in developing countries. This thesis is still valid, considering substantial objections to the applicability of input-output techniques with special regard to developing countries. The results show that the building sector looks quite well—referring to our evaluation measures—even compared with the textile sector. It should be pointed out that the textile industry possibly has advantages in attaining export returns; but at the same time one has to take into consideration that an export-orientated supplementary strategy only fits for *small* developing countries. *Jahr. Nationalökon. Statist.*, Oct. 1978, *193*(5), pp. 427–48 (German). University of Hamburg.

635 **Industry Studies: Services and Related Industries**

Ali, M. M.—Some Evidence of the Efficiency of a Speculative Market

The returns on various betting opportunities at a racetrack are determined by a competitive bidding of the bettors. If the market is efficient, the bets will be valued according to their intrinsic worth, *i.e.*, their probability distributions alone, and thus, and two bets with identical winning probabilities must be equally valued. However, if the speculative motive of the bettors plays a significant role in pricing the bets, then this equality cannot be guaranteed. In this paper, two simple bets of unknown but identical winning probabilities are identified. An analysis of 1,089 observations shows the data are consistent with the efficient market hypothesis. *Econometrica*, March 1979, *47*(2), pp. 387–92. University of Kentucky, Lexington.

Dymmel, M. D.—Technology in Telecommunications: Its Effect on Labor and Skills

Technological change and increasing competitive pressure are expected to reduce employment in the 1980's and alter the occupational composition of the industry. Reductions are anticipated in most occupational groups, with the exception of managers, officials, and salesworkers. Productivity rose at almost triple the rate of the nonfarm business economy during 1960–77, due primarily to strong output growth, which was relatively unaffected by fluctuations in the economy. In this period, real outlays for plant and equipment and research and development have increased strongly in spite of inflationary price rises. *Mon. Lab. Rev.*, Jan. 1979, *102*(1), pp. 13–19. Bureau of Labor Statistics, Washington, D.C.

Figlewski, S.—Subjective Information and Market Efficiency in a Betting Market

Much of the information available to participants in speculative markets is in the nature of expert opinion, analysis, professional advice, and so on. Markets discount widely held factual information very well; this paper studies market efficiency with respect to subjective information. We examine the "market" for bets on thoroughbred horseraces to determine whether the published forecasts of professional handicappers are completely discounted. A multinomial logit probability model is used to measure the information content of the forecasts, and we find that they do contain considerable information but that the track odds generated by betting discount almost all of it. Within the population of bettors, those betting at the track appear to discount the handicapper information fully, but those betting through New York's Off Track Betting system do not. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 75–88. New York University.

700 Agriculture: Natural Resources

710 Agriculture

711 **Agricultural Supply and Demand Analysis**

Doran, M. H.; Low, A. R. C. and Kemp, R. L.—Cattle as a Store of Wealth in Swaziland: Implications for Livestock Development and Overgrazing in Eastern and Southern Africa

The contention that cattle are held as a store of wealth in Swaziland is supported by a regression analysis of slaughters against price and rainfall and by an examination of the Swazi herd structure. The failure to recognize that cattle directly satisfy both wealth and income motives in traditional societies has led to the implementation of production-oriented livestock development programs that may worsen the serious overgrazing problem in Swaziland. Observations elsewhere indicate that there are lessons to be learned for livestock development in other overgrazed parts of Eastern and Southern Africa. *Amer. J. Agr. Econ.*, Feb. 1979, *61*(1), pp. 41–47. Ministry of Agriculture, Swaziland.

Peck, A. E.—Implications of Private Storage of Grains for Buffer Stock Schemes to Stabilize Prices

The paper examines the potential effects of significant commercial grain storage on buffer stock schemes to stabilize prices. Historical evidence is used both to illustrate the significance of commercial storage in the U.S. wheat market and to analyze the effects of prior govern-

ment storage programs on private incentives to store wheat. These results are then introduced into a simulation model of the wheat market and alternative buffer stock schemes are considered. Commercial storage is seen to significantly affect the feasibility of price stabilization schemes by reducing free market price variability and hence the need for price stabilization. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 125–40. Food Research Institute Stanford University.

712 Agricultural Situation and Outlook

Herdt, R. W.; Te, A. and Barker, R.—The Prospects for Asian Rice Production

This paper estimates the changes that would be required in resources devoted to rice production in Asia in order to achieve a rate of growth in production commensurate with the projected rate of growth in demand. The model projections imply that in the absence of further technological change, it will be impossible for production to grow fast enough to match population growth, even with a level of annual investment twice as high as in the past decade. It will be difficult to achieve a higher rate of growth for fertilizer and irrigated land. The importance of further technical change is evident. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 183–203. International Rice Research Institute, Los Banos, Philippines; *idem;* Cornell University.

713 Agricultural Policy, Domestic and International

Peterson, W. L.—International Farm Prices and the Social Cost of Cheap Food Policies

The evidence suggests that real prices received by farmers in the LDC's have been substantially lower than farm prices in the developed nations. Estimates of a long-run aggregate agricultural supply elasticity from cross-section data reveal that it is relatively elastic, in the range of 1.25 to 1.66. It is estimated also that with more favorable farm prices agricultural output in a group of 27 LDC's could have been 40 to 60 percent greater than it was and the national income of the group increased by more than 3 percent annually. *Amer. J. Agr. Econ.*, Feb. 1979, *61*(1), pp. 12–21. University of Minnesota, St. Paul.

Taylor, C. R. and Talpaz, H.—Approximately Optimal Carryover Levels for Wheat in the United States

This paper presents results of stochastic simulations of adherence to a first-period, first-order, certainty equivalence decision rule for approximately optimal wheat stocks in the United States. The decision rule is obtained by maximizing a first-order approximation of the discounted sum of expected producers' plus consumers' surplus less storage costs over a long-time horizon. For comparative purposes, stochastic simulations of the present system for holding stocks are also given in the paper. Stock levels under the present system were found to be higher than the certainty equivalence stock levels. *Amer. J. Agr. Econ.*, Feb. 1979, *61*(1), pp. 32–40. Texas A&M University, College Station.

716 Farm Management

Jones, W. O.—Turnips, the Seventh Day Adventist Principle, and Management Bias

Preoccupation with technical limitations and with "efficient but poor" hypotheses have tended to obscure possibilities for increasing output of tropical African agriculture by better allocation of resources among tasks and their more effective employment in performing individual tasks. The English agricultural "revolution" of the eighteenth century illustrates the importance of allocative efficiency and economic motivation in increasing productivity. Similar factors may explain various local increases in African farm productivity. Current empirical investigations of productivity, however, tend to mask this variability. More emphasis on employing existing technologies effectively, less on introducing new technologies, would make development programs more successful. *Food Res. Inst. Stud.*, 1977–78, *16*(3), pp. 141–57. Food Research Institute, Stanford University.

717 Land Reform and Land Use

Bardhan, P. K.—Agricultural Development and Land Tenancy in a Peasant Economy: A Theoretical and Empirical Analysis

In this paper we have a two-season model of agricultural production in a peasant economy, with unemployment in the lean season

and land rationing at a conventionally fixed crop share by a monopolistic landlord who is also the financier of consumption credit for the sharecropper families. We then work out hypotheses about the relation of the equilibrium percentage of area under tenancy with land quality factors, labor intensity of crops, extent of unemployment, interest rates, weather uncertainty, *etc.* Most of the hypotheses are confirmed by interstate cross-section evidence from India in early 1950's. *Amer. J. Agr. Econ.*, Feb. 1979, *61*(1), pp. 48–57. University of California, Berkeley.

718 Rural Economics

Murdock, S. H.; Wieland, J. S. and Leistritz, F. L.—An Assessment of the Validity of the Gravity Model for Predicting Community Settlement Patterns in Rural Energy-Impacted Areas in the West

This study assesses the use of a gravity model for predicting the probable community settlement patterns of energy related workers in rural areas. It compares the actual settlement patterns of over 2500 Western energy workers to those predicted by a gravity model. Findings indicate that the model is less effective in predicting rural community settlement patterns than urban patterns and that its predictive ability is highly variable from one geographical location to another for different worker subpopulations. Such models should thus be selectively used and only after a preliminary assessment of the model's validity has been made for the specific area of interest. *Land Econ.*, Nov. 1978, *54*(4), pp. 461–71. Texas A&M University, College Station.

720 Natural Resources

721 Natural Resources

Aarrestad, J.—Optimal Savings and Exhaustible Resource Extraction in an Open Economy

A macroeconomic model for an open economy, where optimal savings and exhaustible resource extraction can be determined *simultaneously*, is presented. The model is applicable to an economy with a considerable stock of exhaustible resources, which are exported. The optimal extraction path depends on conditions in the rest of the economy, and the optimal path of capital accumulation depends on conditions in the resource sector. Properties of the optimal paths are derived, and their dependence on prices, parameters, and initial conditions in the economy are examined. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 163–79. Institute of Economics, Norwegian School of Economics and Business Administration, Bergen.

Burness, H. S. and Quirk, J. P.—Appropriative Water Rights and the Efficient Allocation of Resources

This paper investigates the allocative efficiency of the appropriate system of water rights, within the context of a simplified model of a water-using industry. At a long-run competitive equilibrium for the industry and with a prohibition on the transfer of water rights among firms, it is shown that: (1) senior appropriators claim and use more water than junior appropriators; (2) senior appropriators bear less risk than junior appropriators; (3) the allocation of water and diversion capacities among firms is inefficient, being dominated by an equal sharing among firms. The equal sharing allocation, which is Pareto optimal when diversion capacities are supplied by a competitive leasing industry, can be achieved under the appropriative system if there are competitive markets in water rights and in leases for the use of diversion capacities, an application of the Coase theorem. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 25–37. University of New Mexico, Albuquerque; California Institute of Technology, Pasadena.

Clark, C. W.; Clarke, F. H. and Munro, G. R.—The Optimal Exploitation of renewable Resource Stocks: Problems of Irreversible Investment

A dynamic model of the commercial fishery is considered in which capital invested in fleet capacity is assumed to be "non-malleable." The resulting two-state-variable optimal control problem is solved completely and rigorously by means of a novel application of a method referred to as the "Royal road of Caratheodory." The optimal development paths are relatively complex, normally involving a phase of temporary overcapacity in the fishery. Also,

assuming a positive rate of depreciation, there exist two optimal fish biomass levels, a short-term and a long-term optimum. *Econometrica*, Jan. 1979, *47*(1), pp. 25–47. University of British Columbia, Vancouver.

Hoel, M.—Resource Extraction, Substitute Production, and Monopoly

The article analyzes the extraction of an exhaustible natural resource by a monopolist when a substitute for the resource exists. For quite general demand functions, the initial price will be higher, and initial extraction lower, if the substitute is supplied competitively than if it is controlled by the monopolist. When the demand elasticity is constant, the existence of a competitively supplied substitute will give a higher initial price than the initial price when no substitute exists, provided the cost of producing the substitute is sufficiently high. In this case the initial price will be higher the lower this cost is. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 28–37. University of Oslo.

722 Conservation and Pollution

Cocheba, D. J. and Langford, W. A.—Wildlife Valuation: The Collective Good Aspect of Hunting

This article specifies three wildlife valuation technique requirements and employs them to assess the usefulness of existing valuation methods. The Hotelling-Clawson-Knetsch or travel-cost method is judged to have limited potential for wildlife valuation. A direct consumer's surplus (DCS) approach used by Judd Hammack and Gardner M. Brown, Jr., is modified and extended to include a previously neglected aspect of wildlife value—the collective good dimension. An empirical test of the model demonstrates that, by itself, the value of bagged game underestimates the hunting value of waterfowl. Therefore, hunting value estimates should include the benefits derived from both consumptive and nonconsumptive hunting uses of wildlife. *Land Econ.*, Nov. 1978, *54*(4), pp. 490–504. Central Washington University, Ellensburg, Washington.

Pethig, R.—Environmental Management in General Equilibrium: A New Incentive Compatible Approach

Pollution is introduced into a microeconomic general equilibrium model as a set of pure public consumers' goods. No *a priori* distinction between (useless) waste products and "regular" goods is made. Instead, pollution is explained by the discharge of the economy's aggregate excess supply of private goods into the environment. A Groves-Ledyard type of government enforces a scheme of emissions taxes and specific transfers that guide the allocation of pollution and offer a solution to the free rider problem. The main results of the paper are an existence theorem and the two fundamental theorems of welfare economics. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 1–27. University of Mannheim.

Sims, W. A.—The Response of Firms to Pollution Charges

The main contribution of this paper is in the application of a translog cost function to the estimation of pollution abatement responsiveness of plants in the brewing industry. In addition, the differences in response by firms to a popular form of pollution charge—the sewer effluent charge—relative to the standard "pure" effluent charge, is investigated. The empirical results demonstrate considerable abatement responsiveness to pollution charges by firms in the brewing industry. It is also suggested that sewer effluent charges lead to certain undesirable side effects. Empirical estimates of these side effects are also presented. *Can. J. Econ.*, Feb. 1979, *12*(1), pp. 57–74. Concordia University, Montreal.

723 Energy

Balogh, T.—Monetarism and Oil Price Crisis

This paper demonstrates that the critical turn in the economic development of the non-Soviet world preceded the oil-price crisis, though the swing away from full employment and expansion was greatly aggravated by OPEC policy. This pre-OPEC change in fortune was due to the retreat from Keynesian policies, a retreat due mainly if not entirely to the relentless inflation against which all governments fought. In this paper, the monetarist analysis of inflation and oil prices is dissected, and the logical inadequacies exposed. Finally some tentative suggestions of how the non-So-

viet work can avoid a repetition of the financial and economic catastrophe of 1931–33 while living with Arab nations who will generate large current balance-of-payments surpluses is developed. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 27–46. British National Oil Corporation, London.

Butler, G. R. and Gale, J. R.—BTU Cost Comparisons of Conventional and Nonconventional Energy Sources

This paper compares the BTU costs of conventional and nonconventional energy sources available primarily to ultimate consumers in the United States. The paper first presents the BTU costs of conventional energy sources such as natural gas, electricity, and fuel oil. The authors then review a number of studies and government data, which have estimated the BTU costs of nonconventional energy sources, such as solar energy, wood, shale, oil, and coal derivatives. Based upon current market prices, capital costs, and supply data, the authors conclude that the nonconventional energy forms will not have any significant impact upon total energy consumption unless the relative costs of conventional and nonconventional energy sources become closer. *Neb. J. Econ. Bus.*, Winter 1979, *18*(1), pp. 43–60. Michigan Technological University, Houghton.

Davidson, P.—The United States Internal Revenue Service: Fourteenth Member of OPEC?

OPEC is obtaining large monopoly rents via a per barrel "income tax" levied against the producing companies. The Carter wellhead tax proposal utilizes the same Robinsonian device to capture the monopoly tax on old oil. This paper demonstrates that if the IRS were to disallow the current tax credit status for taxes paid to OPEC and also not permit a tax deduction for such payments (on the grounds that they are, like *bribery* or extortion, not tax deductible), then the U.S. could share with OPEC the current monopoly rents and simultaneously encourage producers to contract OPEC operations and expand search and production activities in non-OPEC areas. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 47–58. Rutgers University, New Brunswick, New Jersey.

Georgescu-Roegen, N.—Energy Analysis and Economic Valuation

The prevailing energetic dogma, according to which energy alone matters, was only fostered by the oil embargo; its roots are old. Against it, the author proposes a fourth thermodynamic law—the impossibility of producing unlimited mechanical work without dissipating available matter, *i.e.*, of perpetual motion of the third kind. The fashionable net and gross energy analyses ignore this impossibility. In claiming that economic values reflect only energy costs, these analyses err twice. Economic values also include both services and available matter (which cannot be converted from pure energy). An analysis including material needs shows that the known solar recipes are "parasites" causing a global energy deficit. *Southern Econ. J.*, April 1979, *45*(4), pp. 1023–58. Regional Research Institute, West Virginia University, Morgantown, and *Faculté des Sciences Economiques*, Strasbourg, France.

Issawi, C.—The 1973 Oil Crisis and After

The 1973 oil crisis resulted from the interaction of several factors, not all interrelated; the erosion of the Western political, military, and economic position in the Middle East; the decreasing hegemony of the American and British oil companies; the rise of OPEC after 1960 and its peculiar structure; the confrontation in Libya between government and companies in 1970–71; the change in the demand and supply of oil; the neglect of other sources of energy; the change in inter-Arab relationships; and the weakness of Western leadership. Alternative projections for oil production and consumption in the 1980's are examined. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 3–26. Princeton University.

800 Manpower; Labor; Population

810 Manpower Training and Allocation; Labor Force and Supply

813 Labor Force

Bardhan, P. K.—Labor Supply Functions in a Poor Agrarian Economy

In this paper we have analyzed a very large set of cross-sectional data for agricultural workers in rural West Bengal in estimating farm labor supply functions. We find hardly any evi-

dence of the standard horizontal supply curve of labor frequently assumed in the theoretical literature on development. The wage elasticity of supply turns out to be rather small. It seems labor supply (as well as reported supply price for extra work) is primarily determined by social and demographic conditions for the labor-supplying household and its asset situation. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 73–83. University of California, Berkeley.

820 Labor Markets; Public Policy

821 Theory of Labor Markets and Leisure

Driehuis, W.—Labour Market Imbalances and Structural Unemployment

After a view of labor market data 1955–75 and their characteristics in Germany, France, the U.K., the Netherlands, and Belgium, C. C. Holt's theory of the labor market is used to estimate *UV* (the unemployed and vacancies) functions. Cyclical and structural shifts herein are studied separately. Cyclical shifts are estimated in both single and distributed lag form. For all the countries a structural shift of the *UV* function could be observed since 1967, which points to structural unemployment due to the malfunctioning of the labor market. In combination with frictional unemployment, it shares about 50–60 percent of total unemployment in 1975. Traditional macroeconomic policies influencing demand and/or costs are therefore considered to be considerably constrained in their effects on unemployment. *Kyklos*, 1978, *31*(4), pp. 638–61. University of Amsterdam.

Ito, H. H.—The Effective Wage Rate, Labor Force Participation and the Rate of Return to Investment in Human Capital

The consumer theory approach to job search is employed to develop the effective wage concept, which represents the certainty wage equivalent of labor market participation for an unemployed worker. The relationship between various search theoretic labor market parameters and the effective wage is investigated. These results are employed to analyze the potential biases in the estimation of the participation function and the rate of return to human capital for secondary workers. *Southern Econ. J.*, April 1979, *45*(4), pp. 1059–71. California State University at Northridge.

Kiefer, N. M. and Neumann, G. R.—An Empirical Job-Search Model, with a Test of the Constant Reservation-Wage Hypothesis

This paper provides an empirically tractable version of a job-search model (*cf.*, Dale T. Mortensen, John J. McCall). The model is estimated using data on a sample of workers who were laid off when their plants closed. A generalization of the empirical model, which allows for reservation wages to change over duration of employment, is provided and estimated. Reservation wages are found to decline significantly with duration. Applications of the model and the estimates to explain diverse labor market phenomena are provided. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 89–107. University of Chicago and CORE, *Université Catholique de Louvain*, Belgium; University of Chicago.

Laing, N. F.—The Dynamics of Inflation and Employment in the Full-Employment Zone: A Theoretical Analysis

The paper is concerned with an economy in which some sectors reach full employment before others as demand expands. The position of short-run equilibrium of employment and excess demand is determined by the intersection of the aggregate demand schedule and the short-run output function, which shows the level of output induced by different levels of aggregate demand. The dynamics of the short-run equilibrium position are explored. It is shown that equilibrating forces due to relative price changes must predominate over disequilibrating forces due to the redistribution of income in the absence of exogenous shocks and induced cost inflation. The latter is shown to be subject to a multiplier effect. The paper ends by drawing the policy implications of the analysis. It refutes the acceleration thesis by showing that the level of the real wage does not tend to change under excess damand and argues that if the economy is taken into the full employment zone, forces will be set to work that tend to remove the bottlenecks. *Econ. Rec.*, August 1978, *54*(146), pp. 219–28. University of Adelaide, South Australia.

Nickell, S. J.—Fixed Costs, Employment and Labour Demand over the Cycle

This paper is concerned with the impact of hiring and firing costs on the structure of out-

put and labor demand over the cycle. It further considers the effect of these costs on aggregate employment. The basic technical problem discussed is the determination of optimal hours and employment for a fixed coefficient firm facing a known cyclical demand pattern and hiring/firing costs, which are linear with respect to the rate of change of the labor force. *Economica,* Nov. 1978, *45*(180), pp. 329–45. London School of Economics.

Riddell, W. C.—The Empirical Foundations of the Phillips Curve: Evidence from Canadian Wage Contract Data

This study examines the determinants of negotiated wage changes in Canada during the period 1953–73. The study employs individual contract data, and includes a discussion of the advantages of contract data over aggregate wage index data. The principal aim of the paper is to determine whether or not recent negative findings regarding the existence of a Phillips curve during this period are in fact correct. The study also examines the expectations hypothesis, the effect of unanticipated inflation on wage changes ("catch-up"), and the effect of uncertainty about future inflation on negotiated wage settlements. *Econometrica,* Jan. 1979, *47*(1), pp. 1–24. University of Alberta, Edmonton.

Salop, S. C.—A Model of the Natural Rate of Unemployment

This paper examines the microfoundations of the natural rate in a model of labor market equilibrium in which turnover flows and imperfect information are explicitly considered. Workers may quit their current jobs to enter the unemployment pool in order to search among available vacancies for a more preferred position. Firms economize on turnover by an appropriate wage policy. The internal labor market for experienced trained worker is conceptually separated from the external labor market for new employees. Moreover, the firm is constrained to pay an identical wage rate to all its employees, regardless of seniority. As a result, both labor markets are unable to clear simultaneously, and quantity adjustments are required in one of the markets. Hence, equilibrium entails not only voluntary frictional unemployment, but possibly also a component of involuntary structural unemployment. The equilibrium also contains components of disguised unemployment and search unemployment. *Amer. Econ. Rev.,* March 1979, *69*(1), pp. 117–25. Federal Trade Commission, Washington D.C.

Takagi, Y.—Surplus labour and Disguised Unemployment

This paper presents the condition for the existence of surplus labor under which total agricultural product does not decrease in the face of withdrawal of some workers from agriculture. It has also another purpose to review the historical controversy on so-called disguised unemployment and to point out some confusions involving surplus labor. It is demonstrated that (1) zero marginal productivity of labor is a sufficient condition for surplus labor, but not *vice versa,* and that (2) surplus labor exists so long as the total labor force in terms of labor efficiency does not decrease in face of withdrawal of some workers. *Oxford Econ. Pap.,* Nov. 1978, *30*(3), pp. 447–57. Doshisha University, Kyoto.

Trivedi, P. K. and Rayner, J.—Wage Inertia and Comparison Effects of Australian Award Wage Determination, 1964–74

This paper attempts to explain the determination of average award wage changes without assuming that the outcome of certain strategic wage settlements is known. Models that allow for habit-inertia and comparison effects are constructed. It is argued that the main impact of these factors is on the specification and interpretation of lagged adjustment of wages to changes in its determinants. These models are empirically tested using the pre-indexation quarterly data. An analysis of 1973–74 wage experience is also provided. *Econ. Rec.,* August 1978, *54*(146), pp. 195–218. Australian National University, Canberra.

Viscusi, W. K.—Job Hazards and Worker Quit Rates: An Analysis of Adaptive Worker Behavior

Workers learn about the health and safety risks of their job through on-the-job experiences. This process is conceptualized using two-armed bandit models. Individuals will display a preference for jobs whose implications

are dimly understood, since loose priors are desirable in adaptive contexts. This result generalizes to nonadaptive situations, such as those involving death risks. The analysis predicts that worker quitting should be greater in hazardous contexts, a result that is borne out in examination of several sets of data on aggregative quit rates, individual quit behavior, and paths of employment. *Int. Econ. Rev.*, Feb. 1979, *20*(1), pp. 29–58. Northwestern University, Evanston, Illinois.

Weintraub, S.—The Missing Theory of Money Wages

The thrust of this article is nihilistic: it alleges that economic analysis lacks a theory of *money* wages and that a serious start will have to be made to construct a version that embraces the historical, social, and political forces impelling money wages and thus the price economy, on its evolutionary track in time. *J. Post Keynesian Econ.*, Winter 1978–79, *1*(2), pp. 59–78. University of Pennsylvania.

Wessels, W. J.—The Contribution by Firms to Unemployment: A Dynamic Model

This paper presents a dynamic model of unemployment that has, as the main source of unemployment, the decision by firms to make their workers substantially better off than their workers could be by searching for alternative work. In this way, firms may reduce their turnover, supervising, and disciplining costs. But as a consequence, there will be a surplus of applicants for each job and a correspondingly higher level of unemployment. Our model is developed with assumptions that allow the actions of each firm to be integrated so that we can consider the industry (and the economy) as a whole. The determinants of the level and path of unemployment over the business cycle are described. *Southern Econ. J.*, April 1979, *45*(4), pp. 1130–50. North Carolina State University, Raleigh.

822 Public Policy; Role of Government

Flemming, J. S.—Aspects of Optimal Unemployment Insurance: Search, Leisure, Savings and Capital Market Imperfections

Unemployment insurance is analyzed in the optimal taxation framework. Benefits discourage search and thus raise unemployment. A perfect capital market model is developed and solved explicitly for a constant absolute risk aversion utility function. For "realistic" parameter values low replacement rates (less than 50 percent) are optimal. If there is no lending or borrowing, the optimal rates rise to about 75 percent. Alternative models also admit leisure as a good and the input to search; this reduces optimal replacement when the capital market is perfect. When it is nonexistent, the optimal benefits depend on the value of leisure—rising as it falls. Alternatives to constant benefits conditional or continued unemployment are considered. *J. Public Econ.*, Dec. 1978, *10*(3), pp. 403–25. Nuffield College, University of Oxford.

823 Labor Mobility: National and International Migration

Fields, G. S.—Place-to-Place Migration: Some New Evidence

An economic model is formulated to explain place-to-place migration between major U.S. metropolitan areas. Most importantly related to migration rates are real income, measures of labor market turnover, and actual and average distance. The percentages of college students and military personnel and measures of amount and availability of welfare and unemployment insurance benefits are lesser contributors. Persistent asymmetry appears—destination economic conditions outperform origin conditions. The included variables explain two-thirds of the variance in intermetropolitan migration rates. The results are sensitive to the particular specification adopted. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 21–32. Cornell University.

Steinberg, E. I.—Labor Mobility in 1960–65 and 1970–75

This study uses data from the Social Security Administration's Continuous Work History Sample to analyze three types of labor mobility in the periods 1960–65 and 1970–75: from employment to nonemployment, from one employer to another, and from one industry to another. The study finds that movement from employment to nonemployment was widespread in both periods and, except among

young women with relatively high earnings, was more widespread in 1970–75 than in 1960–65. Interemployer and interindustry mobility declined with age. Unlike their older counterparts, young workers who changed employers were more successful in increasing their earnings than were those who stayed with the same employer. *Surv. Curr. Bus.*, Jan. 1979, *59*(1), pp. 25–27, 36. Bureau of Economic Analysis, U.S. Department of Commerce, Washington, D.C.

824 Labor Market Studies, Wages, Employment

Björklund, A.—On the Duration of Unemployment in Sweden, 1965–1976

The structural changes in the duration of unemployment in Sweden during the period 1965–1976 are analyzed. Thanks to recent working-up of the Labor Force Surveys in Sweden, it has been possible to analyze the duration of unemployment in terms of quarterly survival rates. An econometric test of the structural changes in the survival rates reveals that extensions of the unemployment benefit system in 1968 and 1974 have not contributed to the rising survival rates, at least not to any great extent. Furthermore, the composition of inflow of unemployment in terms of demographic groups has been rather stable during the period, which indicates that the structural changes have had equal effects on all four of the groups considered. *Scand. J. Econ.*, 1978, *80*(4), pp. 421–39. Stockholm School of Economics.

Demetriades, E. I. and Psacharopoulos, G.—Education and Pay Structure in Cyprus

Using data from a sample survey of nearly 30,000 employees, mainly in the private sector, the authors analyze the pay structure of a small island economy with no university of its own. The major findings are that years of schooling and experience explain about one-half of the variance in relative earnings and that the rate of return to education is on the high side as one would expect it to be in a country at this level of development. *Int. Lab. Rev.*, Jan.–Feb. 1979, *118*(1), pp. 103–11. Ministry of Finance, Government of Cyprus; London School of Economics.

Devens, R. M.—Unemployment among Recipients of Food Stamps and AFDC

Data from the Current Population Surveys of March and August 1976 are used to outline the labor force status of persons in households that are beneficiaries of the AFDC and Food Stamp programs. The article examines characteristics of unemployment within the major sex/age groups in the welfare population and emphasizes comparisons with corresponding nonrecipient groups. Major differences are found between the labor force status and attachment of nonbeneficiaries and the relatively unsuccessful job market situation among AFDC and Food Stamp recipients. The data are then applied to estimate the maximum impact of mandatory work registration of welfare recipients on the national unemployment rate. *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 47–52. Bureau of Labor Statistics, Washington, D.C.

Flaim, P. O.—The Effect of Demographic Changes on the Nation's Unemployment Rate

The changes in the makeup of the labor force—particularly the large increase in the proportion of youths—have been found to have exerted considerable upward pressure on the Nation's unemployment rate since the late 1950's. In addition to quantifying the overall impact of demographic changes on the jobless rate, this article presents separate estimates of the effects of the changes in the age structure of the population and of the changes in labor force participation patterns. Also examined are the effects on the jobless rate, which might stem from the changes in the unemployment insurance programs, the expansion of welfare programs, and various other noncyclical factors. *Mon. Lab. Rev.*, March 1979, *102*(3), pp. 13–23. Bureau of Labor Statistics, Washington, D.C.

Levin, B. A.—Scheduled Wage Increases and Escalator Provisions in 1979

This article discusses 1979 wage gains, including possible increases resulting from cost-of-living reviews, under major collective bargaining agreements negotiated in earlier years. At least 5.1 million of the 9.6 million workers

under contracts covering 1,000 workers or more in the private nonfarm sector of the economy will receive deferred wage increases averaging 5.1 percent. These data are further broken down in a table covering both cents-per-hour and percent distributions of average increases in specific industries. Other tables include information on cost-of-living provisions in major contracts, which will provide reviews for 4.1 million workers in 1979. These escalator clauses are also analyzed in terms of their various components, such as the frequency of reviews, formulas, and index used. *Mon. Lab. Rev.*, Jan. 1979, *102*(1), pp. 20–25. Bureau of Labor Statistics, Washington, D.C.

Lillard, L. A. and Weiss, Y.—Components of Variation in Panel Earnings Data: American Scientists, 1960–70

Several components of variation in annual earnings are distinguishable in panel data where each individual is observed over the same time series. Earnings variation over time is decomposed into sources due to measurable variables representing an earnings function, a random effect individual variance component in the level of earnings, a random effect individual component in earnings growth, and a serially correlated transitory component. Maximum likelihood estimates of the implied parameters are presented, and a method for obtaining Generalized Least Squares (GLS) estimates of the earnings regression function, when the residual variance components are given, is explored. The implications of the individual level and growth components for lifetime earnings profiles and the variance in earnings over the life cycle are presented. Finally the model is generalized to include a serially uncorrelated component as well. *Econometrica*, March 1979, *47*(2), pp. 437–54. The Rand Corporation, Santa Monica, California; Tel-Aviv University.

Nickell, S. J.—The Effect of Unemployment and Related Benefits on the Duration of Unemployment

Using cross-section data on individuals taken from the British 1972 General Household Survey, this paper derives estimates of the conditional probability of leaving unemployment in any given week of an unemployment spell. Using these estimates, it examines the impact of changes in unemployment benefits on the duration of completed unemployment spells. The major results are first, the elasticity of completed spell duration with respect to the family benefits to income ratio is about 0.8 and second, the level of benefits has a negligible impact on the conditional probability of obtaining a job if the individual has already been unemployed for over six months. *Econ. J.*, March 1979, *89*(353), pp. 34–49. London School of Economics and Industrial Relations Section, Princeton University.

Olajos, Á. Changing Expectations of the Working Population towards Work in Hungary

Economic development involves the transformation of the vocational structure of employment; the overall educational level of the work force increases as well as the ratio of brain workers. However, the secondary school certificate is yet far from being general even in white collar jobs. The prestige of intellectual jobs is well reflected by a survey of the National Institute for Career Guidance: while 63 percent of elementary school leavers had manual careers in mind, only 6.3 percent of secondary school leavers thought of manual careers. In the future higher selectivity in schooling is necessary on the one hand, and higher education in manual jobs, too, on the other. *Acta Oecon.*, 1977, *19*(2), pp. 191–201. Institute of Computing Techniques, Ministry of Labour, Budapest.

Rones, P. L. and Leon, C.—Employment and Unemployment during 1978: An Analysis

A strong increase in employment highlighted the Nation's job situation in 1978. Gains were pervasive throughout the economy, occurring in every major industry and among all major worker groups. Blue-collar employment showed the greatest percent increase of the major occupational sectors. Virtually all of the increases in employment resulted from an expansion of full-time jobs. The jobless rate declined from 6.6 percent (seasonally adjusted) in late 1977 to 5.8 at the end of 1978. Adult men and women accounted for all of this reduction, sharing about equally in the improve-

ment. The rate for teenagers was relatively unchanged. *Mon. Lab. Rev.*, Feb. 1979, *102*(2), pp. 3–12. Bureau of Labor Statistics, Washington, D.C.

Scherer, P. A.—The Perverse Additional Worker Effect in Australia

Australian census and survey data show that the wives of unemployed men have a lower labor force participation rate than do wives of employed men. In the United States the opposite is the case, resulting in the "additional worker" effect, which is a slight enhancement of the female labor force due to the unemployment of married males. The contrary Australian result is concentrated in large families and might be explained by the fact that for an Australian family in receipt of unemployment benefits the means test results in the virtual confiscation of admitted earnings from part-time employment. *Australian Econ. Pap.*, Dec. 1978, *17*(31), pp. 261–75. University of Sydney.

830 Trade Unions; Collective Bargaining; Labor-Management Relations

832 Collective Bargaining

Crawford, V. P.—On Compulsory-Arbitration Schemes

This paper studies the settlements generated by several variants of a compulsory-arbitration scheme called "final-offer arbitration" (FOA). Some of these are now in use in several states, and one has been recommended by Clifford Donn as an improvement on existing schemes. Under reasonable economic assumptions, two versions of FOA now being used are equivalent to imposing $\hat{z}$, the settlement the arbitrator would impose in conventional compulsory arbitration, a result contrary to the intent of the FOA statutes. However, a simple modification of Donn's proposal leads to a scheme that generates Pareto-efficient settlements that are at least as good for each agent as $\hat{z}$. This suggests that substantial gains in welfare could be realized by a simple change in existing FOA statutes and possibly also by using the new procedure in situations where compulsory arbitration is not now prescribed by law. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 131–59. University of California, San Diego, La Jolla.

840 Demographic Economics

841 Demographic Economics

De Vany, A. and Sanchez, N.—Land Tenure Structures and Fertility in Mexico

This study identifies the pronatalist bias of the Mexican land tenure system; it tests the hypothesis that the population in the land reform sector exhibits higher human fertility than other comparable groups within Mexico. Tests are performed over two different data sets using various measures of fertility, and the results more or less uniformly reject the null hypothesis that the fertility of land reform sector families does not differ from other families. It is noted that the rapid rate of population growth in Mexico has coincided with the reallocation of land to the land reform sector from the private sector. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 67–72. University of Chicago; College of the Holy Cross, Worcester, Massachusetts.

Fleisher, B. M. and Rhodes, G. F., Jr.—Fertility, Women's Wage Rates, and Labor Supply

A multiple equation family model of fertility, child quality, wife's wage rate, and wife's labor supply is estimated with disaggregate data from the National Longitudinal Survey, using an instrumental variables technique. The empirical results provide evidence that the number of children demanded by the family is negatively associated with their cost and positively associated with family income, *ceteris parabus*. Desired family size feeds back negatively to mother's market earning power. There is a surprising lack of association between number of children and the mother's lifetime labor supply. This may be because children affect labor supply indirectly through the wage rate. *Amer. Econ. Rev.*, March 1979, *69*(1), pp. 14–24. Ohio State University, Columbus; Colorado State University, Fort Collins.

Kau, J. B. and Sirmans, C. F.—A Recursive Model of the Spatial Allocation of Migrants

One of the controversies in the migration literature is the influence of past migration on current migration patterns. This paper addresses this controversy by specifying and estimating a recursive model of internal migration in the United States using data on interstate

migration flows for the periods 1940, 1950, 1960, and 1970. The recursive model serves as a compromise between the simplicity of the traditional model and the simultaneous equation model. The recursive system contributes to the understanding of migration behavior by its decomposition of the influence of past migrants on current migration flows. *J. Reg. Sci.*, Feb. 1979, *19*(1), pp. 47–56. University of Georgia, Athens, Georgia.

Smith, T. R.—Migration, Risk Aversion, and Regional Differentiation

Analysis of a simple two-region model indicates that migration may affect a regional differentiation of population in terms of the degree of individual risk aversion. In the case of zero migration costs, a simple partition of the population results. The partition need be neither unique nor stable. In the case of migration costs, although differences in the equilibrium distributions of risk-aversion between the regions depend on the initial distributions and the level of transport costs, there is a simple partition in terms of risk aversion between those who migrate and those who do not. Regional variations in the distribution of risk averseness could have significant implications for variation in regional economies. *J. Reg. Sci.*, Feb. 1979, *19*(1), pp. 31–45. University of California, Santa Barbara.

850 Human Capital

851 Human Capital

Linnerooth, J.—The Value of Human Life: A Review of the Models

This paper reviews four consumer maximization models where the probability of premature death enters as a variable that is both known to the consumer and under his control. These models generate a number of interesting results with respect to a person's willingness to pay for an increased chance of living. The conclusion of this review is that, in the absence of available data on personal demand for increased survival probability, it is impossible to determine the relationship between the willingness-to-pay and the human-capital approaches to placing a value on human life. *Econ. Inquiry*, Jan. 1979, *17*(1), pp. 52–74. International Institute for Applied Systems Analysis, Vienna.

Murray, D.—Sources of Income Inequality in Australia, 1968–69

There are wide divergences in the mean incomes of males and females in Australia. In addition income is related to age, education, and work force participation. This paper uses decompositions of Theil and Gini income inequality coefficients to examine the extent to which inequality of earned income may be explained by these various factors. It is suggested that education and age, singly and jointly, explain a major part of inequality. Having allowed for these factors, sex appears to have a limited residual importance. *Econ. Rec.*, August 1978, *54*(146), pp. 159–69. University of New England, Armidale, New South Wales.

Psacharopoulos, G. and Tinbergen, J.—On the Explanation of Schooling, Occupation and Earnings: Some Alternative Path Analyses

C. Jencks's well-known sociological path analysis connecting parental socioeconomic characteristics and some ability measure of the person investigated with his or her schooling, occupation, and income is available for the United States, Sweden, and the Netherlands in various versions. For the United Kingdom the analysis has now been applied to the new General Household Survey, supplying over 5000 observations. This article compares the various results and offers a few alternative models, using the American and British data. These alternatives do not offer, in the British case, improvements in variance explained. Moreover, most regression coefficients show wide variations between countries. A suggestion for improvement is derived from a recent study using at least three occupation characteristics. *De Economist*, 1978, *126*(4), pp. 505–20. London School of Economics; Erasmus University, Rotterdam.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 Welfare, Health, and Education

911 General Welfare Programs

Krashinsky, M.—The Cost of Day Care in Public Programs

It is often observed that private enterprise can produce a commodity at lower cost than can a public agency, and therefore public officials facing a "make it or buy it" decision should choose to purchase the commodity in the marketplace. In the specific case of day care for young children, this paper suggests that the observation can be misleading. Day care is more expensive in publicly-run centers than in either private centers or family day care, but transferring subsidized children from public to private centers is likely to save far less than might be anticipated. Using data from Ontario, Canada, it is suggested that placing subsidized children in private day care tends to raise the costs per child in those centers. As more day care is subsidized, the discipline of the market is eroded, the organization of the work force increases, and political pressure for better day care intensifies, all serving to drive up costs. *Nat. Tax J.*, Dec. 1978, *31*(4), pp. 363–72. University of Toronto.

912 Economics of Education

Hill, C. R.—Capacities, Opportunities and Educational Investments: The Case of the High School Dropout

A four equation recursive model is used to estimate the probability of leaving high school before completion for a sample of white and black youths. For both races family background as measured by family income, parental education and family size are important factors. For black youths, their knowledge of the labor market is the most important factor in affecting their probability of dropping out. All the youths who dropped out of school did not suffer large wage losses or periods of unemployment three of four years after dropping out. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 9–20. University of South Carolina Columbia.

Hoenack, S. A. and Weiler, W. C.—The Demand for Higher Education and Institutional Enrollment Forecasting

This paper presents a university enrollment forecasting model and evaluates the model's performance in a case application. The model includes (1) enrollment demand questions with both tuition and labor market variables; (2) equations to forecast values of the labor market variables that influence demand; and (3) procedures to calculate the statistical confidence interval in an enrollment forecast. The results of the case application suggest that equations for enrollment demand and labor market variables could be readily estimated with available data. However, estimated forecast confidence intervals may be too large to justify basing enrollment related budgets on point forecasts when enrollments fluctuate directly with enrollment demand. *Econ. Inquiry*, Jan. 1979, *17*(1), pp. 89–113. University of Minnesota, Minneapolis.

913 Economics of Health

Bartel, A. and Taubman, P.—Health and Labor Market Success: The Role of Various Diseases

This article estimates the effects of specific diseases, physician diagnosed, on wage rates and hours worked. It therefore differs from previous research in that it does not rely on an individual's self-evaluation of his health status, which is often a biased measure of health. The results show strong effects on earnings (20–30 percent) around age 50 of such diseases as arthritis, bronchitis, emphysema, heart disease, hypertension, psychoses, and neuroses, which were contracted during the last ten years. The diseases are found to reduce both the individual's wage rate and his labor supply. *Rev. Econ. Statist.*, Feb. 1979, *61*(1), pp. 1–8. Columbia University; University of Pennsylvania.

Carroll, M. S.—Private Health Insurance Plans in 1976: An Evaluation

Private health insurers collected a record $39.4 billion in premiums and returned $35 billion in benefits to their subscribers in 1976—a reflection of the steadily rising cost of health care, higher utilization, and the demand for expanded services. The industry experienced a net underwriting loss of $611 million, mainly because claims and operating expenses under insurance-company group business ran 3 percent above premium income. About 77 percent of the civilian population had some form of private hospital insurance, and about the same percentage had some form of surgical insurance. *Soc. Sec. Bull.*, Sept. 1978, *41*(9), pp.

3-16. Health Care Financing Administration, Washington, D.C.

Doherty, N. A.—National Insurance and Absence from Work

This paper examines disincentives to work under the U.K. Sickness Benefit scheme. These disincentives are considered to represent a form of moral hazard familiar under insurance systems. Time-series and cross-sectional data reveal some evidence of negative effects on labor supply, but these results are subject to competing explanations. They are compatible with frequent reports of abuse of the scheme. Alternatively, they may support the view that the scheme is more effective in reaching the target population when the economic costs of being "off sick" are reduced. *Econ. J.*, March 1979, *89*(353), pp. 50–65. Cranfield School of Management.

Gibson, R. M. and Fisher, C. R.—Age Differences in Health Care Spending, Fiscal Year 1977

This report of health care spending in fiscal year 1977 reveals that of the $142.6 billion spent by the nation for personal health care in fiscal year 1977, 29 percent was spent for those aged 65 or older, 59 percent for those aged 19–64, and 13 percent for those below age 19. The average health bill reached $1,745 for the aged, $661 for the intermediate age group, and $253 for the young. Public funds financed 67 percent of the health expenses of the aged, with Medicare and Medicaid together accounting for 61 percent. More than two-thirds of the health expenses of the young and 71 percent of the expenses of those aged 19–64 were paid by private sources. Third-party payments met 68 percent of the health expenditures of all those under age 65. *Soc. Sec. Bull.*, Jan. 1979, *42*(1), pp. 3–16. Health Care Financing Administration, Washington, D.C.

Hawkins, S. C. and Rigby, D. E.—Effect of SSI on Medicaid Caseloads and Expenditures

This article provides information about recent changes in state Medicaid caseloads and payments following implementation of the supplemental security income program (SSI) and the possible effects of SSI on such changes. It does not appear that SSI was a significant factor in the Medicaid changes. The growth in Medicaid payments resulted primarily from expansion of medical services to include care in intermediate-care facilities, inflation, and higher utilization of medical services. *Soc. Sec. Bull.*, Feb. 1979, *42*(2), pp. 3–14. Social Security Administration, Washington, D.C.

Wang, C. L.—Occupational Skin Disease Continues to Plague Industry

Skin diseases have accounted for more than 40 percent of all occupational diseases in past BLS annual surveys of occupational injuries and illnesses. Incidence rates for total cases declined slightly between 1972 and 1976, but rates for lost workday cases and lost workdays continued high. Workers in agriculture and manufacturing experienced greater risk of skin disease than other workers. Based on detailed industry analyses, 15 industries were singled out for exceptionally high average incidence of skin disease and can be considered of particular risk to workers. Chemicals, together with coal and petroleum products, were the major sources of skin disease in manufacturing, according to 1976 workers' compensation cases selected for study. *Mon. Lab. Rev.*, Feb. 1979, *102*(2), pp. 17–22. Bureau of Labor Statistics, Washington, D.C.

915 Social Security

Diamond, P. A. and Mirrlees, J. A.—A Model of Social Insurance with Variable Retirement

Models are studied, in which ability to supply labor is affected by a random variable (health) not observable by government. When ill-health strikes, the consumer must retire, but he may choose to retire in any case. Optimal social insurance policies are found for one-period, two-period, and continuous-time models. It is found that, under plausible conditions, at the optimum consumers are indifferent whether to work or not, but do work when able. Insurance contributions decrease with age, and insurance benefits increase with age of retirement. It is desirable to prevent private saving. Some comments on the U.S. Social Security System are added. *J. Public Econ.*, Dec.

1978, *10*(3), pp. 295–336. Massachusetts Institute of Technology; Nuffield College, University of Oxford.

Hastings, R. I. K.—Student OASDI Beneficiaries: Program Utilization and Educational Aspirations

The article describes the past, current, and projected utilization of social security student benefits by children receiving them in December 1972. Of the nearly 2 million children aged 18–21 estimated to be eligible in 1972, about one-third were actually receiving benefits at the end of the year. School enrollment rates by age and race were remarkably similar. Nearly half the students with benefits in current-payment status have been initially awarded benefits as children 5 or more years earlier. Median cumulative benefit received was projected to be just over $5,000 for those intending 4 or more years of college. *Soc. Sec. Bull.*, Sept. 1978, *41*(9), pp. 17–33. Social Security Administration, Washington, D.C.

Mallan, L. B. and Cox, D.—Older Workers Uninsured for Retired-Worker Benefits

This article estimates the number of persons who have worked in employment covered by the social security program but not enough to meet minimum requirements for retired-worker benefits. On the basis of a sample of persons near retirement age in 1973, it was found that about 70 percent of these persons are women, that they have worked an average of about 8 quarters, and that many of those ineligible have had no work in covered employment since 1950. An estimated 12 percent of men and 29 percent of women aged 57–64 in 1973, with some covered employment in 1937–73, will be ineligible for retired-worker benefits. *Soc. Sec. Bull.*, Dec. 1978, *41*(12), pp. 3–11. Social Security Administration, Washington, D.C.

916 Economics of Crime

Bartel, A. P.—Women and Crime: An Economic Analysis

This paper analyzes the determinants of female participation in criminal activities through the use of an economic model of crime. The model is tested empirically on 1970 state data on female arrests, and the results are generally consistent with the theoretical predictions. The major findings are that the probability of arrest and the probability of conviction have significant deterrent effects on female property crime; the labor force participation rate of married women has no effect; and the average number of preschool children in husband–wife families has a negative and significant effect. The decrease in the average number of preschool children per husband–wife family that took place between 1960 and 1970 is shown to have accounted for more than half of the increase in female property crime that occurred during that decade. *Econ. Inquiry*, Jan. 1979, *17*(1), pp. 29–51. Columbia University.

920 Consumer Economics

921 Consumer Economics; Levels and Standards of Living

Daniel, Z.—Reflections on the Measurement of Living Standard and Social Welfare

Research into the interpretation and measurement of economic development level and welfare have pointed out that the use of per capita gross domestic product (GDP) oversimplifies the question. In international literature the following methodological suggestions are read: the use of aggregated GDP with corrections, the integration of macro- and microeconomic information, systems of indicators rather than a single aggregate, and surveys on the quality of life. Analyses must use a system of indicators that is suitable for analysis and planning alike; the data collection, which must be economical, must be capable of being used in the long run; the system must be comprehensive and amendable. Requirements for indicators are treated in detail. *Acta. Oecon.*, 1977, *19*(2), pp. 149–64. Institute of Economic Planning of the National Planning Office, Hungary.

Feldstein, M.—Do Private Pensions Increase National Saving?

This paper discusses how private pension programs differ from public social security in their likely impact on aggregate saving. Although private pensions are likely to reduce direct saving by employees, this should be offset by the combination of companies' partial

funding and the shareholders response to unfunded liabilities. In contrast to several earlier empirical studies that implied that social security does depress national saving, the current time-series evidence suggests that the growth of private pensions has not had an adverse effect on saving and may have increased saving by a small amount. *J. Public Econ.*, Dec. 1978, *10*(3), pp. 27–93. Harvard University.

Hoch, R.—On the Theoretical Bases of Socialist Consumption Policy

The essence of the socialist model of consumption is the humanization of the way of life. It is a dynamic concept to be adjusted to real states and processes, and put into practice by the economic and social policy of the socialist state. The latter involves material stimulation to efficiency influencing consumption patterns too. Relations between consumers also have a heavy impact. Efficient consumption policy requires an amplification of choice and quality of available goods. *Acta. Oecon.*, 1977, *19*(2), pp. 133–48. Institute of Economics, Hungarian Academy of Sciences.

Keller, J.—Relationship between the Population's Savings and Income in Hungary

The analyses show that total savings of the population are related to the increase of money incomes of families, more closely than are savings deposits. With increased per capita income, savings grow dynamically above a certain threshold level. Therefore national planning should consider the income of the population as the basic factor in the growth of the savings of the population. Examination of the propensity of families to save also shows, however, that beyond the global level of incomes, their distribution as well as their marginal growth are important factors. *Acta. Oecon.*, 1977, *19*(2), pp. 165–75. National Savings Bank, Hungary.

Pöll, G.—Anspruchsniveau and permanente Frustration im Verbrauchsverhalten

In this paper it is demonstrated—using the hyperbolic Engel curve as an example—that modern psychological and sociological concepts like frustration and aspiration level fit well in with and enrich the "old" theory on a behavioral basis. In the second part of the paper the various hypotheses are illustrated in an empirical analysis of the expenditures of urban workers on private traffic from 1962 to 1974. The estimated parameters of the hyperbolic Engel curve are then interpreted as interesting (also for sociologists) measures of the class specific aspiration level and frustration in the context of conspicuous consumption (T. Veblen) of urban workers. *Kyklos*, 1978, *31*(4), pp. 588–600 (German). University of Linz, Austria.

Ziesing, H.—Zur längerfristigen Entwicklung der Stromnachfrage in der Bundesrepublik Deutschland (Longer-Range Electricity Demand Development in the Federal Republic of Germany)

The expansive phase of the electric power industry in the Federal Republic of Germany seems to be over. Future electricity demand—predicted with the help of regression analysis for 35 demand sectors—is likely to increase considerably slower than in the past. Whereas electricity consumption increased by an average of 6.2 percent annually between 1960 and 1967, the mean rate of increase until the year 2000 is likely to be only around 3 percent. In this development, the expected weakening of the expansion impulse that has operated till now will be reflected in nearly all consumer sectors. Lower electricity consumption increase opens the possibility of reduced—or at least considerably stretched—power plant expansion plans in the electric power industry. This is true not only for capacity development as a whole, but also with respect to the further construction of atomic power plants. *Konjunkturpolitik*, 1978, *24*(5–6), pp. 339–60 (German). *Deutsches Institut für Wirtschaftsforscung*, Berlin.

930 Urban Economics

Mills, D. E.—Segregation, Rationing and Zoning

This paper advances some conditions sufficient to warrant social intervention in the urban land market and raises some issues surrounding a notion of "optimal zoning." Emphasis is placed on the distinction between the segregation and rationing effects of zoning. A

general conclusion is that zoning is an appropriate policy instrument if used for its segregation effect, proper account being taken of its rationing effect, but is inappropriate when used explicitly for its rationing effect. *Southern Econ. J.*, April 1979, *45*(4), pp. 1195–1207. University of Virginia, Charlottesville.

931 Urban Economics and Public Policy

Arnott, R. J. and Lewis, F. D.—The Transition of Land to Urban Use

This paper investigates the economics of the transition of land from rural to urban use. A simple model is employed to examine the developer's problem: when and at what density should vacant land be developed to maximize the present value of the land. A series of rules emerge from the analysis relating to the timing and density of new development. In the latter half of the paper, the rules are tested against recent Canadian experience and perform well. *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 161–69. Queen's University, Kingston, Ontario.

Fishkind, H. H.; Milliman, J. W. and Ellson, R. W.—A Pragmatic Econometric Approach to Assessing Economic Impacts of Growth or Decline in Urban Areas

This article presents a pragmatic econometric simulation model which is flexible, workable, and yet sufficiently comprehensive to be applicable to a wide range of urban areas experiencing changing economic prospects. The authors attempt to find a middle ground between the simple but very limited multiplier approaches and the very large-scale econometric or input-output models. The model is constructed entirely from secondary data, which helped to keep its development costs low, and the model's operation is illustrated by analyzing the potential impacts of a firm entering the community and constraints on the area's leading employer. *Land Econ.*, Nov. 1978, *54*(4), pp. 442–60. University of Florida, Gainesville.

Richter, D. K.—The Computation of Urban Land Use Equilibria

This paper describes a general computational method for finding approximate numerical solutions to a wide variety of competitive, long-run, spatial equilibrium models of urban land use. The computational technique is based upon the recently discovered class of simplicial search or fixed point algorithms. In our framework both commercial and residential land use is endogenously determined, with allowance made for multiple workplaces and other more realistic features of an urban environment, which are frequently missing from purely analytic models. *J. Econ. Theory*, Oct. 1978, *19*(1), pp. 1–27. Boston College, Chestnut Hill, Massachusetts.

Rosser, J. B., Jr.—The Theory and Policy Implications of Spatial Discontinuities in Land Values

This paper elucidates the various theoretical explanations for the existence of spatial discontinuities in land values and shows their relations to existing models of land values and land use. Zoning, special land use controls, and heterogeneity of land are examined as influences on the land supply function, which can produce discontinuities in land values. Applying the standard model of land values to the border of a ghetto, the study shows that discontinuities in land values can exist in equilibrium at the border if prejudice exists and exclusionary or discriminatory behavior by whites occurs. *Land Econ.*, Nov. 1978, *54*(4), pp. 430–41. James Madison University, Harrisonburg, Virginia.

932 Housing Economics

Hanushek, E. A. and Quigley, J. M.—An Explicit Model of Intra-Metropolitan Mobility

This analysis focuses on one aspect of residential mobility—the decision to change dwellings. Based on data gathered as part of the Housing Allowance Demand Experiment (HADE), this paper estimates a model of intrametropolitan moving behavior related to household disequilibrium in the demand for housing. The model hypothesizes that the strength of the incentive to relocate varies with the gap between actual and equilibrium housing consumption. The results provide strong support for the model and clearly indicate the importance of changes in equilibrium

demand in affecting moving decisions and search intensity. *Land Econ.*, Nov. 1978, *54*(4), pp. 411–29. Yale University.

Lakatos, M.—Housing and the Ways of Obtaining a Flat in Four Countries

On the basis of an international comparison made by the European Centre for Coordination and Documentation of Research in Social Sciences, in Vienna, the housing situation in the Soviet Union, Hungary, France, and Italy are analyzed. Quantitative and qualitative data are analyzed in the light of housing norms prevailing in the countries concerned. The legislation and the actual participation of the state in housing construction are treated in connection with the modes of obtaining a flat. Finally, the distribution of flats among social categories are surveyed as well as the motives of the population in changing accomodation. *Acta. Oecon.*, 1977, *19*(2), pp. 177–88. Central Statistical Office, Hungary.

Maclennan, D.—Information Networks in a Local Housing Market

The housing market, because of its complexity and disequilibrium tendencies, generally requires search by consumers. The acquisition of information is an important factor in conditioning actual search behavior. Extending the methodology developed in labor market studies, the paper develops a simple model of information channel choice. Hypotheses are developed from this model and tested against survey data. The survey data relate to the local furnished rental housing market in the period following the extension of rent controls to that sector. As a result the paper suggests some of the less obvious consequences that may follow the suspension of the local housing market price mechanism. *Scot. J. Polit. Econ.*, Feb. 1979, *26*(1), pp. 73–88. University of Glasgow.

Richards, P. J.—Housing and Employment

How successful are present housing policies in promoting employment and satisfying the poor's need for shelter? First, it seems generally true that cheaper houses have a higher labor content that more expensive ones, and single-story houses a higher labor content than high-rise buildings. At the same time conventional housing is frequently beyond the financial reach of the poor. Governmental responses to this situation include the provision of housing subsidies, which may be more or less efficient in helping the poor, and the encouragement of self-help housing schemes and the like. However, the general picture is that technologies for constructing adequate housing without subsidies are not yet sufficiently advanced. *Int. Lab. Rev.*, Jan.-Feb. 1979, *118*(1), pp. 13–26. International Labour Office, Geneva.

Rosen, H. S.—Housing Decisions and the U. S. Income Tax: An Econometric Analysis

This paper examines the effects of the current income tax treatment of owner-occupied housing on the quantity of housing consumed and on the tenure choice by various groups. Cross-sectional data for 1970 are used to estimate jointly tenure choice and housing demand equations. The equations' parameters are used to assess the efficiency and equity implications of the relevant tax law provisions. *J. Public Econ.*, Feb. 1979, *11*(1), pp. 1–23. Princeton University.

933 **Urban Transportation Economics**

Abe, M. A.—Reciprocal Consumption Externalities in Urban Transportation: Problems of Optimal Tolls and Investment

A user of public service is usually required to provide a considerable amount of his time. Time is a scarce commodity and, as such, commands a positive price. The paper discusses the importance of money price and time price in choice of travel modes, automobile or bus. Discussed is the optimal allocation of commuters between the two travel modes under reciprocal externalities between them in terms of both money cost and time cost. Under these externalities, Pareto optimality and profit maximization imply different tolls, even when commuters have homogeneous values of time. Government policies to achieve the optimal flow of traffic are discussed: a lottery method when commuters have homogeneous time values and an iteration method when commuters have diverse time values. *Econ. Stud. Quart.*

Dec. 1978, *29*(3), pp. 248–58. Marquette University, Milwaukee, Wisconsin.

940 Regional Economics

941 Regional Economics

Latham, W. R.; Lewis, K. A. and Landon, J. H.—Regional Econometric Models: Specification and Simulation of a Quarterly Alternative for Small Regions

This paper describes the specification, estimation, and simulation of a regional econometric model for the State of Delaware, which has been used for policy purposes in the state for several years. The Delaware model differs from those of other regions in several important respects; (1) the region modeled is truly small; (2) the model is estimated with quarterly rather than annual data; (3) the basic accounting identity around which the model is constructed is gross regional income rather than gross regional product; and (4) the model introduces the use of a more elaborate microeconomic theory of the labor market into regional modeling. *J. Reg. Sci.*, Feb. 1979, *19*(1), pp. 1–13. University of Delaware, Newark.

Mulligan, G. F.—Additional Properties of a Hierarchical City-Size Model

This paper explores a number of related properties of a hierarchical city-size model based on Christaller-type central place principles. The model's economic base implications are first clarified, and then the model is reformulated along the lines of input-output analysis. Subsequently, activity sectors (*i.e.*, populations engaged in providing identical service bundles) are defined for all central places so that the urban-rural population balance of the entire system can be established. This balance is shown to be inversely related to the basic-nonbasic ratio of the system's largest central place. *J. Reg. Sci.*, Feb. 1979, *19*(1), pp. 57–66. Queen's University, Kingston, Ontario.

Powell, R. A. and Mandeville, T. D.—Analysis of Sector Interactions and Stability in a Rural Region of N. S. W.

The technique of input-output analysis is applied to a statistical subdivision in the wheat-sheep zone of New South Wales for the purpose of analyzing the economic linkages between the rural and urban sectors of the region. The economic structure of the region is examined, and the flow-on effects of changes in farm sector income on specific sectors and the region as a whole are analyzed. Finally, some implications of the results as a whole are analyzed. Finally, some implications of the results for stabilization and regional development are discussed. *Econ. Rec.*, August 1978, *54*(146), pp. 239–55. University of New England, Armidale, New South Wales.

Roberts, R. B. and Fishkind, H.—The Role of Monetary Forces in Regional Economic Activity: An Econometric Simulation Analysis

This paper describes some conceptual advances in regional econometric modeling of regional supply conditions and some new insights into subnational business cycles. While the financial sector is one where factors of production (capital) should be as close to perfectly mobile as factors can be, this research suggests that (1) even this sector has important regional aspects, (2) capital is not perfectly mobile, and (3) the regional differences are empirically significant. The simulation results indicate that regional econometric models that exclude considerations of regional financial markets are capable of reasonable simulation behavior and can produce adequate forecasts. However, a more structural model, which explicitly allows for regional financial markets, can provide greater accuracy, particularly when national business conditions are near peaks or troughs, as this is the time when regional differences are the greatest and the most important. *J. Reg. Sci.*, Feb. 1979, *19*(1), pp. 15–29. University of Florida, Gainesville.

Index of Authors of Articles in the Subject Index

This *Index* includes all articles included in the *Subject Index;* the numerical references (arranged randomly) are to the *subject classification(s)* of the article. Classifications for different articles by the same author are separated by a semicolon; *page number(s)* for abstracts appear in italics in parentheses for articles with abstracts. If an article is written by two or three authors, each author is listed separately; if by four or more authors, it is listed under the first author only, followed by *et al.*

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The Analytics of Uncertainty and Information— An Expository Survey

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THAT HUMAN ENDEAVORS are constrained by our limited and uncertain knowledge of the world has always been recognized by leading economic thinkers, far too numerous to be cited here. (An extended historical bibliography is contained in a forthcoming treatise by Fritz Machlup [81, 1979].) But despite this longstanding *recognition*, until relatively recently there was no rigorous foundation for the *analysis* of individual decision-making and market equilibrium under uncertainty. This foundation lacking, the standard analytical models of our textbooks (typified by the familiar apparatus of supply and demand) made no explicit provision for uncertainty. It is not surprising, therefore, that the world of affairs often found academic economics to be of little operational value.

Recent explosive progress in the economics of uncertainty has changed this picture. The subject now flourishes not only in economics departments, but in professional schools and programs oriented toward business, government and administration, and public policy. In the world of commerce, stockmarket analysts now regularly report measures of share-price uncertainty devised by economic theorists. Even in government and the law, formal analysis of uncertainty is beginning to appear in dealing with such problems as safety and health, allowable

return on investment, and income distribution. And academic economists, armed with the new developments in the economics of uncertainty, are much more successfully analyzing previously intractable phenomena such as insurance, research and invention, advertising, speculation, and the functioning of financial markets.

It will be impossible to provide any adequate review here of all the important developments under the headings of uncertainty and information. What we hope to do is to expound the central underlying ideas in nontechnical fashion; to introduce the novel tools of analysis that have proved fruitful in this area; and to go somewhat more deeply into selected applications in order to convey some impression of the potential richness and power of the theory. Wherever possible, we will provide citations to major branches of the literature that we have been unable to survey here.

The theoretical developments that have brought about this intellectual revolution have two main foundation stones: (1) the theory of preference for uncertain contingencies and in particular the "expected-utility theorem" of John von Neumann and Oskar Morgenstern [103, 1944], and (2) the formulation of the ultimate goods or objects of choice in an uncertain universe as *contingent* consumption claims: entitlements to particular commodities or commodity baskets valid only under specified "states of the world" (more briefly, "states") [4, Kenneth J. Arrow, 1953; 7, 1964; 29, Gerard Debreu, 1959]. Just as intertemporal analysis requires subscripting commodity claims *by date,* uncertainty analysis requires subscripting commodity claims *by state.* Among objects of choice so defined, as we shall see, production and exchange and consumption all take on recognizable forms as generalizations of the corresponding processes in the familiar world of certainty.

An alternative conceptualization of the objects of choice under uncertainty runs in terms of the *statistical parameters* of the probability distributions of commodity or income claims. In that formulation it is assumed that individuals prefer greater *mean* income but smaller *variance* of income; attention may or may not be paid to higher moments of the distribution [83, Harry M. Markowitz, 1959]. It has been shown that the more general "state-preference" representation of the objects of choice under uncertainty can be reduced to such a "parameter-preference" representation by making a number of specializing assumptions [141, James Tobin, 1958; 17, Karl Borch, 1968; 39, Martin S. Feldstein, 1969]. In the particularly simple form of choice between mean return and variance of return on investment, the parameter-preference model has provided the basis for important modern developments in the theory of finance [83, Markowitz 1959; 130, William F. Sharpe, 1964; 75, John Lintner, 1965; 99, Jan Mossin, 1966]. We will not be able to pursue the parameter-preference approach here; for recent surveys see Michael C. Jensen [65, 1972] and Robert C. Merton [96, forth, 1980].

The modern analytical literature on uncertainty and information divides into two rather distinct branches. The first branch deals with *market uncertainty.* Each individual is supposed to be fully certain about his own endowment and productive opportunities; what he is unsure about are the supply–demand offers of other economic agents. In consequence, on the individual level the search for trading partners and at the market level disequilibrium and price dynamics take the center stage—replacing the traditional assumption of costless exchange at market-clearing prices [136, George J. Stigler, 1961; 137, 1962; 94, John J. McCall, 1965]. Explicit analysis of market uncertainty is leading toward a more realistic treatment

of market "imperfections," with implications not only for microeconomics but for macroeconomics as well [106, Edmund S. Phelps, 1970]. The second branch of literature deals with *technological uncertainty* or (a preferable designation) *event uncertainty*. Here individuals are uncertain not about the terms on which they might make market exchanges but rather about exogenous events—such as resource endowments (will the wheat crop be large or small?) or productive opportunities (will fusion power be available?) or public policy (will taxes be cut?). Put another way, market uncertainty concerns the *endogenous* variables of the economic system, event uncertainty the *exogenous* data.

The present survey is limited to the relatively more tractable topic of *event uncertainty*. This limitation permits us to employ the simpler traditional model of perfect markets in which all dealings take place costlessly at equilibrium prices. Recent studies of the complex search and disequilibrium phenomena that emerge under market uncertainty are reviewed in Michael Rothschild [117, 1973] and Steven A. Lippman and McCall [76, 1976].

The paper is divided into two main parts, the first covering the economics of *uncertainty* and the second the economics of *information*. The two categories correspond to what might be called passive versus active responses to our limitations of knowledge. In Part I individuals may be said to *adapt* to the fact of uncertainty; in Part II they are allowed also to *overcome* uncertainty by engaging in informational activities.

I. *The Economics of Uncertainty*

1.1 *Decision Under Uncertainty*

In decision-making under uncertainty the individual chooses among acts, while Nature may metaphorically be said to "choose" among *states*. In principle both acts and states may be defined over a continuum, but for simplicity here a discrete representation will ordinarily be employed. TABLE 1 pictures an especially simple 2 × 2 situation. The individual's alternative acts $a = (1,2)$ are shown along the left margin, and Nature's alternative states $s = (1,2)$ across the top. The body of the table shows the *consequences* c resulting from the interaction of each possible act and state.

TABLE 1

CONSEQUENCES OF ALTERNATIVE ACTS AND STATES

		States $s=1$	*States* $s=2$	*Utility of acts*
Acts	$a=1$	c_{11}	c_{12}	u_1
	$a=2$	c_{21}	c_{22}	u_2
Beliefs as to states		π_1	π_2	

More generally, the individual's decision problem requires him to specify: (1) *a set of acts* $a = (1, \ldots, A)$; (2) *a probability function* expressing his beliefs $\pi(s)$ as to Nature's choice of state $s = (1, \ldots, S)$; (3) *a consequence function* $c(a,s)$ showing outcomes under all combinations of acts and states; and, finally (4) a preference-scaling or *utility function* $v(c)$ defined over consequences. Using these as elements, the "expected-utility rule" (Section 1.1.4 below) enables him to order the available acts in terms of preferences, *i.e.*, to assign a utility function over *acts* $u(a)$ so as to determine the one most highly preferred.

1.1.1 *The Menu of Acts.* We shall consider here two main classes of acts: *terminal*, and non-terminal or *informational*.

Terminal actions represent making the best of one's existing combination of information and ignorance. For example,

you might decide whether or not to take an umbrella on the basis of your past history of having been caught in the rain. In statistical theory, terminal action is exemplified by the balancing of Type I and Type II errors in coming to a decision (whether to accept or reject the null hypothesis) on the basis of the evidence or data now in hand. In contrast with the classical statistical problem, which may be likened to the decision situation of an isolated Robinson Crusoe, in the world of affairs studied by economists there are interpersonal arrangements—insurance contracts, futures markets, guarantees and collateral, the corporation and other forms of combined enterprise—which serve to widen the terminal-act options available to individuals. These market processes provide a variety of ways for *sharing* risks and returns among the decision-making agents in the economy.

Informational actions are non-terminal in that a final decision is deferred while awaiting or actively seeking new evidence which will, it is anticipated, reduce uncertainty. In statistics, informational actions involve decisions as to new data to be collected: choice of sampling technique, sample size, *etc.* Again, in the world of affairs, interpersonal transactions open up ways of acquiring information apart from the sampling techniques studied in statistics: information may be purchased, or inferred by monitoring the behavior of others, or even stolen. To a degree, information acquisition and dissemination have become specialized functions (the "knowledge industry" [79, Machlup, 1962]) whose practitioners are rewarded by exchanges with other economic agents in the economy.

Part I of this paper will, apart from introductory discussions, cover only *terminal actions*—decisions made under fixed probability beliefs ("the economics of uncertainty"). The enlarged range of issues generated by admitting also non-terminal actions will be examined in Part II ("the economics of information").

1.1.2 *The Probability Function.* We will assume that each individual is able to represent his *beliefs* as to the likelihood of the different states of the world (*e.g.*, as to whether Nature will choose Rain or Shine) by a "subjective" probability distribution [40, Irving Fisher, 1912, ch. 16; 126, Leonard J. Savage, 1954]. That is, an assignment to each state of a number between zero and one (end-points not excluded) whose sum equals unity. Subjective *certainty* would be represented by attaching the full probabilistic weight of unity to only one of the outcomes. The degree of subjective *uncertainty* is reflected in the dispersion of probability weights over the possible states.

Frank Knight [72, 1921] attempted to distinguish between "risk" and "uncertainty," depending upon whether probability estimates are or are not calculable on the basis of an objective classification of instances. At times he suggested [72, 1921, pp. 20, 226] that the probability concept is inapplicable under true uncertainty, for example, to such questions as whether or not a cure for cancer will be discovered in the next decade. It will not be possible to review here the philosophical and operational underpinnings of the probability concept; for our purposes, it is sufficient that the "subjective" or "degree of belief" interpretation has proved fruitful even for Knightian uncertainty situations. But elsewhere Knight's discussion is much more in line with modern developments, as when he suggests [72, 1921, p. 227] that a man's actions may depend upon his estimate of the chance that his beliefs are correct—or, we shall say, upon his *confidence* in his beliefs. We will show explicitly in Part II that degree of confidence is an essential element in *non-terminal* (informational) actions; the estimated value of acquiring information varies inversely with prior confidence.

1.1.3 *The Consequence Function.* By *consequence* is meant a full definition of all relevant characteristics of the individual's environment resulting from the interaction of the specified act and state. A consequence can be regarded as a multi-commodity multi-date consumption basket. However, we will sometimes assume that it corresponds simply to the amount of a single summary variable like income.

In the case of a *terminal* action, the consequences contingent upon each state might either be certain or probabilistic—depending upon the definition of "states of the world" for the problem at hand. If the states are defined deterministically, as in "Coin shows Heads" versus "Coin shows Tails," and supposing the act is "Bet on Heads," the contingent consequences are the simple certainties "Win" in the one state and "Lose" in the other. But states of the world might sometimes represent alternative probabilistic processes. For example, the two alternative states might be "Coin is fair (has 50 percent chance of coming up Heads)" versus "Coin is biased to come up Heads with 75 percent chance." In this situation the act "Bet on Heads" will have probabilistic consequences: "50 percent chance of winning" in one state of the world, "75 percent chance" in the other.

For an *informational* action, on the other hand, the consequences will in general be probabilistic even if the states of the world are defined deterministically, since acquisition of information does not ordinarily eliminate all uncertainty. If the states are "Rain" versus "Shine," and the informational action is "Look at barometer," the consequences will only be improved likelihoods of behaving appropriately—since the barometer reading is not a perfect predictor of Rain or Shine.

1.1.4 *The Utility Function and the Expected-Utility Rule.* In the theory of decision under uncertainty, utility as an index of preference attaches both to consequences c and to acts a. We distinguish the two by the notations $v(c)$ and $u(a)$, the problem being to derive the $u(a)$ for evaluating actions from the primitive preference scaling $v(c)$ for consequences.

To choose an act is to choose a row of the consequence matrix, as in TABLE 1. Given the assignment of probabilities to states, this is also choice of a probability distribution or "prospect." A convenient notation for the "prospect" associated with an act a, whose consequences $c_a = (c_{a1}, \ldots, c_{aS})$ are to be received with respective probabilities $\pi = (\pi_1, \ldots, \pi_S)$, is:

$$a \equiv (c_{a1}, \ldots, c_{aS}; \pi_1, \ldots, \pi_S)$$

The connection between the utility ordering of acts and the preference scaling of consequences is provided by the Neumann-Morgenstern "expected-utility rule":

$$\begin{aligned} u(a) &\equiv \pi_1 v(c_{a1}) + \ldots + \pi_S v(c_{aS}) \\ &\equiv \sum_{s=1}^{S} \pi_s v(c_{as}) \end{aligned} \tag{1.1}$$

That is, the utility of each act $u(a)$ is the mathematical expectation or probability-weighted average of the utilities of the associated consequences $v(c_{as})$.

The expected-utility rule is of course a very specific and special procedure for inferring preferences $u(a)$ over acts from the primitive preference scaling of consequences $v(c)$. What is its justification? It turns out that the expected-utility rule is usable *if and only if the $v(c)$ function is determined in a particular way that has been termed the assignment of "cardinal" utilities to consequences.* More specifically, the underlying theorem can be stated as follows:

> Given certain "postulates of rational choice," there is a way of assigning a cardinal preference-scaling function $v(c)$ over consequences such that the preference ranking of any pair of pro-

spects a', a'' coincides with the ranking under the expected-utility rule.

The "postulates of rational choice" therefore justify the *joint* use of cardinal utilities and the expected-utility rule in dealing with choices among risky prospects—a point worth emphasizing, since it would be quite invalid to infer that the theorem warrants or provides a cardinal utility measure for choices *not* involving risk (see the discussions in William Baumol [14, 1951]; Armen A. Alchian [2, 1953]; Robert H. Strotz [139, 1953]).

The "postulates of rational choice" serving as basis for the theorem have been set forth in a number of different ways in the literature [42, Milton Friedman and Savage, 1948; 78, R. Duncan Luce and Howard Raiffa, 1957; 83, Markowitz, 1959; 85, Jacob Marschak, 1968] and involve technicalities that cannot be pursued here. Instead, what follows is an informal presentation (based mainly on Robert Schlaifer [128, 1959]) illustrating, by direct construction, the development of a personal cardinal preference-scaling function for use with the expected-utility rule (equation 1.1).

For the purposes of this discussion, we will assume that the contingent consequences c are certainties and also that c represents simply the quantity of generalized income. Let $\check{c}$ represent the worst consequence (lowest level of income) contemplated by the individual, and $\hat{c}$ the best consequence (highest level of income). As "cardinal" preference scales allow free choice of zero and unit interval, we can let $v(\check{c}) = 0$ and $v(\hat{c}) = 1$. Now consider some intermediate level of income c^*. We can suppose that the individual is indifferent between (assigns equal utility to) having c^* for certain versus having some particular chance of success π^* in a "reference lottery" involving $\check{c}$ and $\hat{c}$. What numerical value can we attach to this common level of utility to allow use of the expected-utility rule? The answer is, simply, the probability π^* of success in the reference lottery. Making use of "prospect" notation:

$$u(c^*) \equiv u(\hat{c}, \check{c}; \pi^*, 1 - \pi^*) \equiv \pi^* \quad (1.2)$$

Figure 1 illustrates a situation in which $\check{c} = 0$, $\hat{c} = 1000$, $c^* = 250$, and $\pi^* = ½$. That is, this individual is indifferent between a sure income of $250 and a 50 percent chance of winning in a lottery whose alternative outcomes are $1000 or nothing. Then the utility assigned to the sure consequence $250 is just ½, so $v(250) = .5$. Repeating this process, the reference-lottery technique generates the individual's entire $v(c)$ curve of Figure 1, which is his preference-scaling function for consequences.

The expected-utility rule, combined with the constructed $v(c)$ function, works because the latter is *scaled as a probability.* The formula (1.1) for finding an overall $u(a)$ by weighting the utilities of contingent consequences $v(c)$ is exactly the formula for finding the overall probability associated with a set of contingent probabilities.

We have foregone presenting a formal statement of the "postulates of rational choice" that underly the expected-utility rule. But a few comments are in order here:

1. We have assumed that the $v(c)$ scale is unique, applicable to every state of the world. This will be reconsidered below under the heading of "state-dependent utility."

2. We have implicitly ruled out complementarities in utility, whereby a higher income c_s in a state s might affect the v score attached to income c_t in another state t. The justification is that c_s and c_t are not to be received *in combination* but only *as alternatives*; no complementarity can exist because c_s and c_t can never be enjoyed simultaneously.

3. While we have emphasized that $v(c)$

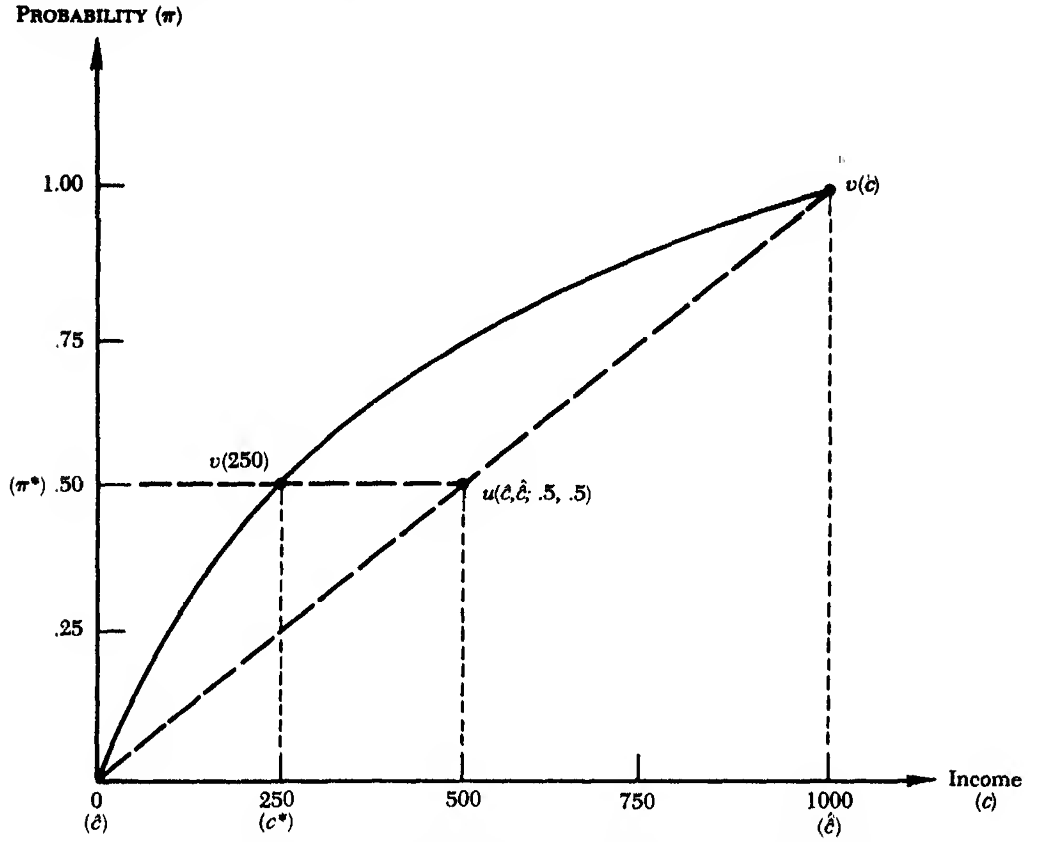

Figure 1. THE PREFERENCE-SCALING FUNCTION $v(c)$ DERIVED BY THE "REFERENCE-LOTTERY TECHNIQUE"

should be intuitively thought of as scaled in terms of probability, any fixed positive linear transformation of the $v(c)$ scale would be equally satisfactory—because cardinality permits free choice of zero and unit interval.

1.1.5 *Risk-Aversion and the Risk-Bearing Optimum of the Individual.* The "concave" form of the cardinal preference-scaling $v(c)$ function in Figure 1 shows diminishing marginal utility of income—$v''(c) < 0$—for this individual. Such a person is said to be *risk-averse*: he would always prefer a sure consequence (level of certain income) to any probabilistic mixture of consequences (lottery or prospect) having the same mathematical expectation. Figure 1 illustrated a situation where the reference lottery with equal chances of \$1000 or zero (and thus with a mathematical expectation of \$500) is the utility equivalent of a sure income of only \$250. Such a person must then prefer a sure income of \$500 to this risky lottery whose mathematical expectation is \$500. It is intuitively evident that this generalizes: any point P on a concave $v(c)$ curve will lie *above* the corresponding (vertically aligned) point along the straight line connecting any pair of positions on $v(c)$ that bracket P. The point *on the curve* represents the utility of a given sure in-

come; the vertically aligned point *on the straight line* represents the utility of a lottery with a mathematical expectation equal to that given amount.

It follows immediately that a risk-averse individual endowed with a given sure income would never accept a *fair gamble*, a lottery whose mathematical expectation of net return equals zero (since it would shift him from a position *on* the $v(c)$ curve to a vertically aligned point on a straight line below it). A gamble would have to be somewhat better than fair, offer some positive mean return (just how much depends upon his degree of risk-aversion) to be acceptable. On the other hand an individual whose $v(c)$ function had the opposite "convex" curvature, representing *increasing* marginal utility of income—$v''(c) > 0$—would be happy to accept any fair gamble and even, up to a point, gambles worse than fair (offering a negative mean return). Such an individual is said to display *risk-preference*. An individual on the borderline, with a $v(c)$ function that is linear (constant marginal utility of income or $v''(c) = 0$) is said to be *risk-neutral*. A risk-neutral individual would accept, reject, or be indifferent to gambles that are respectively better than fair, worse than fair, or just fair.

It might be thought that the "concave" $v(c)$ function of Figure 1 applies only to one psychological type of person, or perhaps only to people at particular times or stages in the life cycle, so that the world would consist of a mixture of risk-averse, risk-neutral, and risk-preferring types. But the observed fact of *diversification of assets* suggests that risk-aversion is normal. An individual who is risk-neutral, for example, would plunge all of his wealth in that single asset which—regardless of its riskiness—offered the highest mathematical expectation of return. But we scarcely ever see this behavior pattern, and do observe more typically that individuals hold a variety of assets, thereby reducing their risk of ending up with an extremely low level of income.

What of the seemingly opposed evidence that fair gambles (and, indeed, gambles generally worse than fair) are accepted by bettors at Las Vegas and elsewhere? There have been some attempts to construct preference-scaling functions $v(c)$ that would be consistent with gambling over certain ranges of income *and* with avoiding gambles over other ranges [42, Friedman and Savage, 1948; 82, Markowitz, 1952]. These constructs run against the difficulty that if gambles are available on a fair or nearly-fair basis, no one could ever be at an optimum in any risk-preferring range of his $v(c)$ curve. To leave such a range, individuals would accept even enormous riches-or-ruin gambles. Such behavior is surely rare, and there is no indication of ranges of income that are thus depopulated. Except in more or less pathological cases, therefore, gambling at fair or adverse odds appears to be a recreational rather than income-status-determining activity for individuals. As evidence, we observe that actual gambling as in Las Vegas is mostly of a repetitive small-stakes nature, more or less guaranteed *not* to change income status in the long run.

That risk-aversion is the normal situation is indicated in a different way by Figure 2. Here the familiar-looking indifference curves u^0, u', u'', . . . show the expected utilities of gambles, for the individual characterized by the preference-scaling function $v(c)$ in Figure 1, in *state-claim* space. Following Arrow's formulation [4, 1953; 7, 1964], the commodities c_1 and c_2 on the two axes represent claims to income (claims to the unique consumption good) *contingent* upon the occurrence of the subscripted state of the world. (For simplicity here, we assume only two states, s_1 and s_2, with corresponding fixed

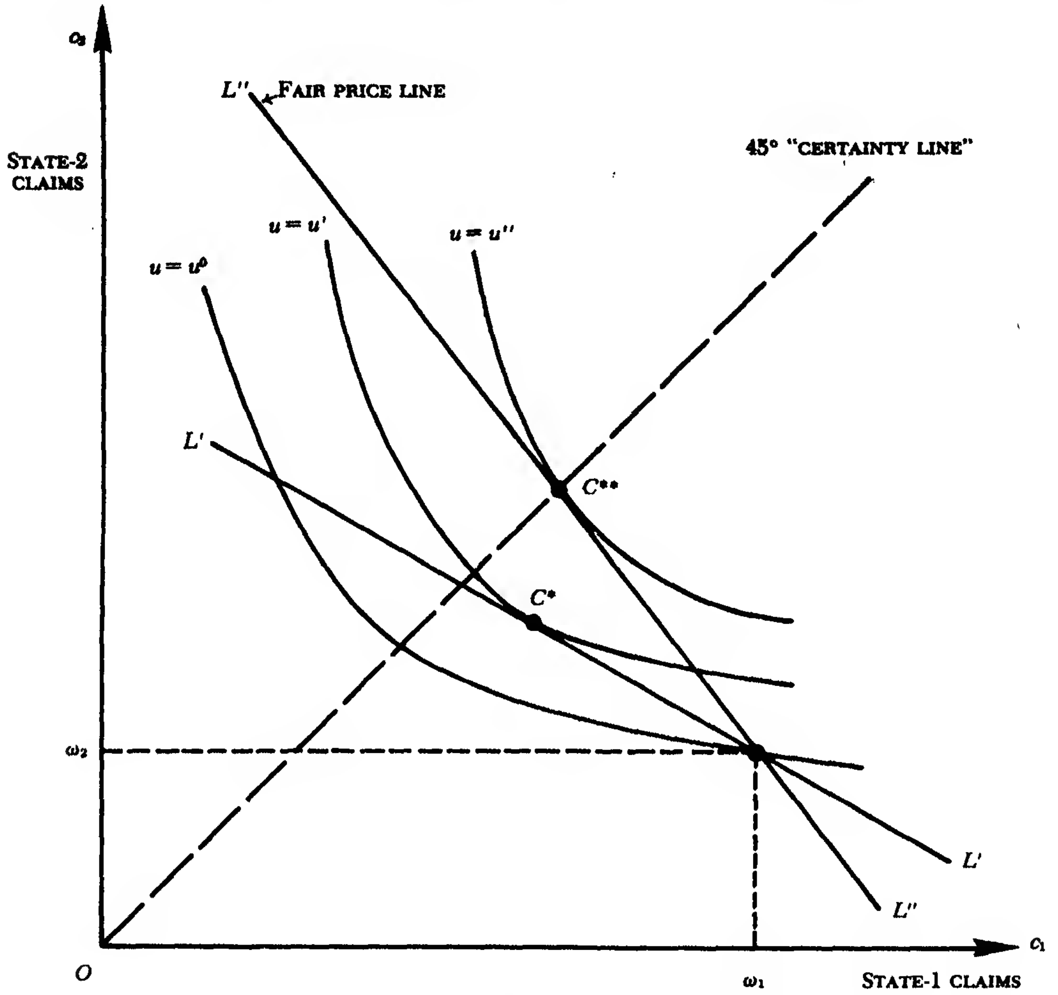

Figure 2. THE PREFERENCE MAP IN CONTINGENT CONSUMPTION OR STATE-CLAIM SPACE (PROBABILITY FIXED)

probabilities π_1 and $\pi_2 \equiv 1 - \pi_1$.) Then the expected-utility equation (1.1) takes the special form (1.1′):

$$u \equiv \pi_1 v(c_1) + \pi_2 v(c_2) \tag{1.1'}$$

This family of equations corresponds to the indifference curves of the diagram. The indifference-curve slopes in Figure 2 are related to the marginal utilities $v'(c)$ via:

$$\left.\frac{dc_2}{dc_1}\right|_{du=0} \equiv -\frac{\pi_1 v'(c_1)}{\pi_2 v'(c_2)} \tag{1.3}$$

It is elementary though tedious to show that the indifference curves have the normal "convex to the origin" curvature if and only if $v''(c) < 0$—*i.e.*, only if the preference-scaling function $v(c)$ is "concave."

Now let us suppose that the individual is a price-taker in a market where contingent claims c_1 and c_2 can be exchanged

in the ratio P_1/P_2. He has an initial endowment position (ω_1,ω_2) in state-claim space, his starting portfolio of contingent income claims—a risky position in the diagram, since $\omega_1 \neq \omega_2$. The price ratio, together with the endowment position, determined his budget line $L'L'$ in Figure 2. It is then geometrically evident that, given the standard indifference-curve curvature that stems from risk aversion, the risk-bearing optimum position C^* will normally be in the interior—*i.e.*, the individual will want to "diversify" his holdings of state-claims. Following standard techniques, C^* along the budget line is the tangency determined by the condition:

$$-\frac{dc_2}{dc_1}\bigg|_{du=0} = \frac{\pi_1 v'(c_1)}{\pi_2 v'(c_2)} = \frac{P_1}{P_2} \qquad (1.4)$$

We can arrive at a much stronger result for the special case where the price ratio P_1/P_2 equals the probability ratio π_1/π_2. Since the condition for "fair" gambles can be expressed as $\pi_1\Delta c_1 + \pi_2\Delta c_2 = 0$—the mathematical expectation of gain is zero—and since in market exchange $\Delta c_2/\Delta c_1 = -P_1/P_2$, this equality of the price ratio and the probability ratio corresponds to the market offering fair gambles. Then the condition (1.4) simplifies to:

$$\frac{v'(c_1)}{v'(c_2)} = 1 \qquad (1.4')$$

Given the state-independent form of the $v(c)$ curve as in Figure 1, equation (1.4′) corresponds to a solution where $c_1 = c_2$—*i.e.*, to a tangency optimum like C^{**} at the intersection of the budget line $L''L''$ with the 45° "certainty line" in Figure 2.

Thus, confirming our earlier result, starting from a certainty position the individual would never accept any gamble at fair odds. And, if endowed with a risky situation he would use the fair-odds condition to "insure" by moving to a certainty position. That is, he would accept just that risky contract, offering income in one state in exchange for income in another, which exactly offsets his endowed gamble. (Correspondingly, if the market odds are not fair, the individual *would* accept some risk so that C^* would lie off the 45° line.) Note that mere acceptance of a risky contract does not tell us whether the individual is moving away or toward a certainty position (enlarging or reducing his risk exposure)—the riskiness of his *endowment* position must also be taken into account.

A natural next step would be to explore the responses of the individual's risk-bearing optimum C^* (and thus of his implied state-claim transactions) to a variety of parametric shifts: to changes in prices, in probability beliefs, in the size of endowed income and its state-distribution, and in the riskiness of the prospects available to him. It has proved useful to define measures of *relative* and *absolute risk-aversion* [107, John W. Pratt, 1964; 8, Arrow, 1965] that help characterize the individual's response to such parametric shifts. Limited space unfortunately precludes coverage of this large topic.

1.2 *Market Equilibrium Under Uncertainty*

We now shift the level of analysis, from the decisions of the individual to market interactions and the conditions of equilibrium. Recall however that we are not dealing with what is called *market uncertainty* (with its characteristic phenomena of search and of trading at non-clearing prices). Rather, we are dealing with *event uncertainty*. And we shall generally be assuming perfect but not necessarily complete markets: trading in consumption claims contingent upon alternative states of the world takes place at market-clearing prices, but not all definable claims may be separately tradable.

1.2.1 *Risk-Sharing*. If both parties in some transaction are risk-averse, they will

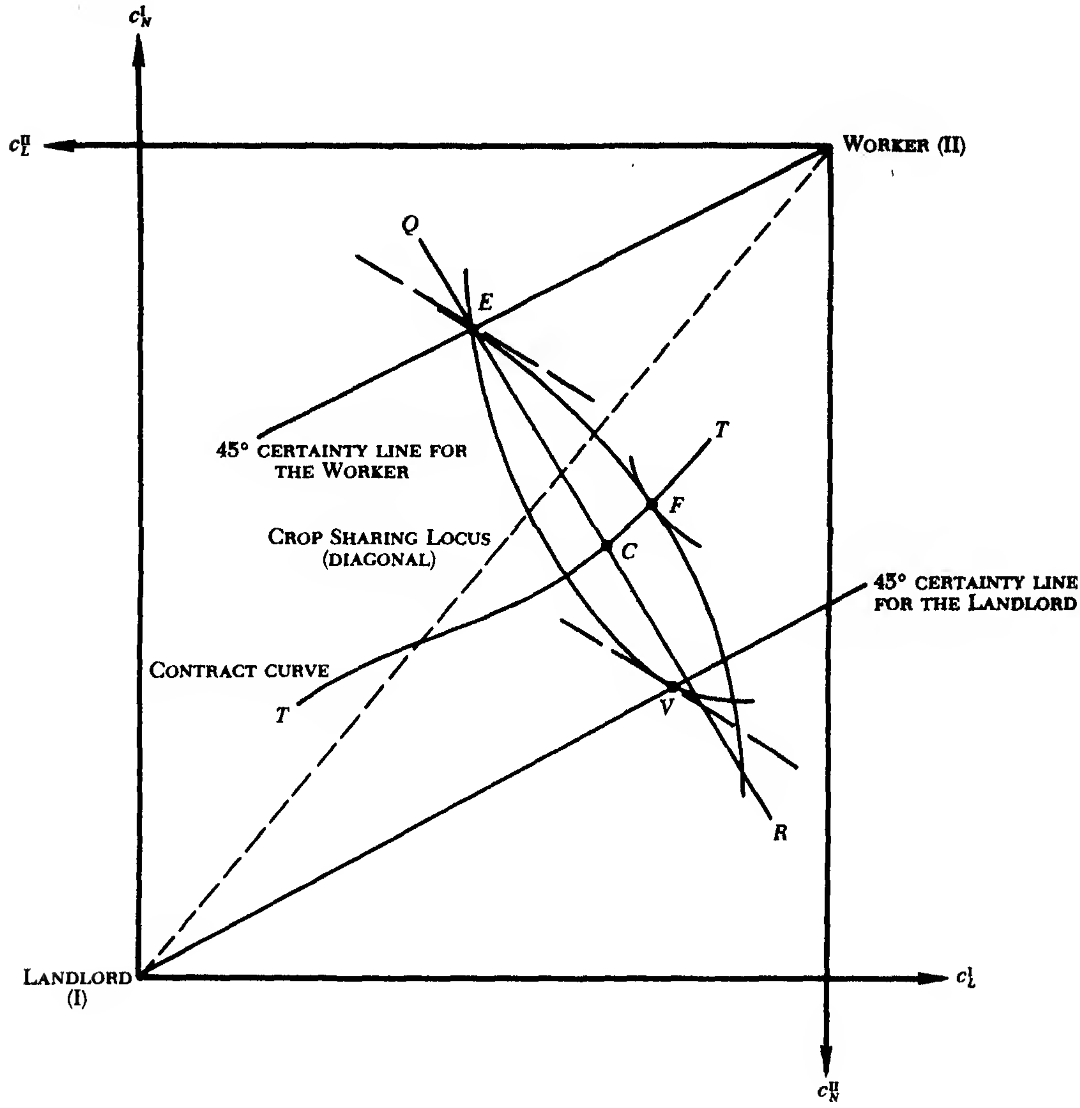

Figure 3. RISK SHARING

generally contract to share the total risks and returns. This can be illustrated by the Edgeworth box in Figure 3 [18, William C. Brainard and F. Trenery Dolbear, Jr., 1971; 92, John M. Marshall, 1976], which for concreteness may be thought of as illustrating a "share cropping" problem [20, Steven N. S. Cheung, 1969; 112, Joseph D. Reid, Jr., 1976]. The alternative states of the world are "good crop" or non-loss state N and "bad crop" or loss state L, with associated contingent claims c_N and c_L. Because of the difference in social totals of income in the two states, the box is vertically elongated.

Given agreed-upon probabilities π_L, π_N ($\pi_N = 1 - \pi_L$), the indifference curves for each agent have the same absolute slope

π_L/π_N along their respective 45° certainty lines. It is obvious that the two traders (Landlord I and Worker II) cannot both attain certainty positions. At a position like E the Landlord is bearing all the risk (the Worker is receiving a fixed wage independent of which state obtains). At a position like V the opposite holds; the Landlord is receiving a fixed rent regardless of state, while the Worker bears the risk. Starting from a position like E, state-claim trading will lead to an equilibrium at a point like C on the contract curve TT within the region of mutual advantage. It is geometrically evident that the contract curve necessarily lies between the two 45° certainty lines, so some of the risk will be borne by each party.

If the individuals were constrained to strict *proportionate* crop-sharing, the equilibrium would have to lie along the main diagonal of the Edgeworth box. (This would represent a kind of "incomplete market" for the trading of contingent claims.) Such a solution would not in general be Pareto optimal, but it might be a rather close approximation of a point on the contract curve. Proportionate sharing in a world of unequal social totals of income would be strictly consistent with a Pareto-optimal solution only if conjoined with side payments from one party to another.

1.2.2 *Insurance.* The Edgeworth box interaction in Figure 3 can be given another interpretation: the risk-sharing that takes place there can be regarded as "mutual insurance." Indeed, all insurance is best thought of as mutual [91, Marshall, 1974]; insurance companies are only intermediaries in the risk-sharing process. We will be providing here a relatively extended discussion of insurance markets in order to illustrate in somewhat greater depth a number of the salient issues of uncertainty theory.

In the insurance context, once again the Edgeworth box will in general be elongated; we can imagine a social "loss" state of the world L (*e.g.*, an earthquake occurs) versus a "non-loss" state N. From any given endowment point like E, price-taking traders arrive at a risk-sharing equilibrium like C on the contract curve. The absolute slope ($=P_L/P_N$) of the equilibrium market line (QR) exceeds the absolute slope of the dashed lines representing the fair prices or probability ratio ($=\pi_L/\pi_N$). That is, claims to income in the less affluent state L command a relatively high price, the marginal utility of income in that state being higher in equation (1.4) for the representative individual.

In economic analyses of insurance there has been a tendency to assume that fair or "actuarial" insurance terms would be normal were it not for transaction costs ("loading") [33, Isaac Ehrlich and Gary S. Becker, 1972]. In what follows we shall survey some of the major elements, transaction costs aside, that generally lead to *nonfair* equilibrium prices.

Social Risk:

Suppose two individuals I and II have equal initial incomes, but there is a hazard that will surely impose a fixed loss ξ on exactly one of them (with fixed, but not necessarily equal probabilities for each). The Edgeworth box would be square. Then the two 45° lines collapse into the single main 45° diagonal, which also becomes the contract curve. Here there is private risk without social risk. The two states of the world are "loss strikes I" versus "loss strikes II." Each party will want to exchange income in *his* non-loss state (the "premium") for compensation to be received in his loss state (the "indemnity"). The equilibrium price ratio (premium/indemnity ratio) corresponds to the respective probabilities; at these fair prices, all private risk is eliminated by mutual insurance.

Apart from this extreme special case of perfect negative correlation of risks, *four*

distinct states of the world can be defined in a two-party situation—the loss may be suffered by neither person, by I alone, by II alone, or by both. And the social total of losses can be 0, 1, or 2. Evidently, there is no way of arranging affairs so that everyone can have the same income regardless of state; universal *full insurance* (whereby everyone attains his "certainty line") is generally impossible. It follows that equilibrium prices cannot be "fair"; each person's premium/indemnity ratio must exceed the odds that he will suffer a loss.

For larger insurance pools with M members, the Law of Large Numbers is sometimes thought to justify treating the per-capita loss $\gamma \equiv 1/M \sum_{i=1}^{M} \xi_i$ as approximately constant over states. As M increases, the variance of γ declines and thus the error committed by assuming away social risk diminishes. Nevertheless this error does *not* tend toward zero unless the separate risks are on average uncorrelated [83, Markowitz, 1959, p. 111]. If the variance of loss has the same value σ^2 for each individual, and if the correlations between all pairs of risks equal some common r (which can only hold if $r \geqq 0$), the variance of the per-capita loss γ equals:

$$\sigma_\gamma^2 = \frac{1}{M^2}\,(M\sigma^2 + M(M-1)r\sigma^2) \quad (1.5)$$

In the limit as M increases, the variance of per capital loss approaches the value $r\sigma^2$, which remains positive unless $r = 0$.

We see, therefore, that "social risk" is not exclusively due to small numbers; it persists even with large numbers if risks are on average correlated. In the language of portfolio theory, risks have a "diversifiable" element, which can be eliminated by purchasing shares in many separate securities (equivalent to mutual insurance among a large number of individuals) and an "undiversifiable" element due to the average correlation between risks. It follows then that a particular asset will be more valuable the less is the correlation of its returns over states with the aggregate returns of all assets together—the variability of which is the source of undiversifiable risk. As this concept is applied in modern investment theory, the correlation of returns on each particular security with the returns from the "market portfolio" consisting of all securities together is indicated by that security's "beta" parameter [131, Sharpe, 1978, chap. 6]. Securities with low or, even better, negative betas trade at relatively high prices (*i.e.*, investors are satisfied with low expected rates of return on these assets) because they provide their holders with relatively large returns in just those states of the world where aggregate incomes are low (where marginal utilities are high).

The "social risk" phenomenon therefore provides two reasons why insurance prices may not be fair or actuarial, so that purchase of coverage is ordinarily less than complete: (1) if the number of risks in the insurance pool is small, so that the Law of Large Numbers cannot fully work, or (2) even with large numbers, if risks are on average correlated.

State-Dependent Utilities:

Our discussion to this point has been based upon the unique state-independent preference-scaling function of Figure 1. More generally, however, the utility we attach to income c may vary with the state of the world. In the insurance context, we may have a $v_N(c)$ curve for the non-loss state N and a separate (lower) $v_L(c)$ curve for the loss state L (Figure 4a). This will be appropriate wherever the object insured cannot be regarded simply as an income-equivalent—for example if it is an irreplaceable heirloom, or your own life, or your child's. There is no contradiction with the development in Section 1.1.4 above that led to the picture in Figure 1, for there it was assumed (merely as a simplification) that utility was a function

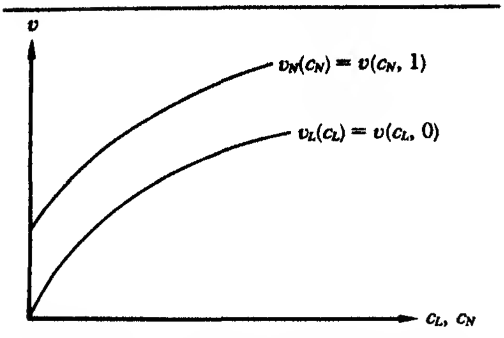

Figure 4a. STATE-DEPENDENT UTILITY

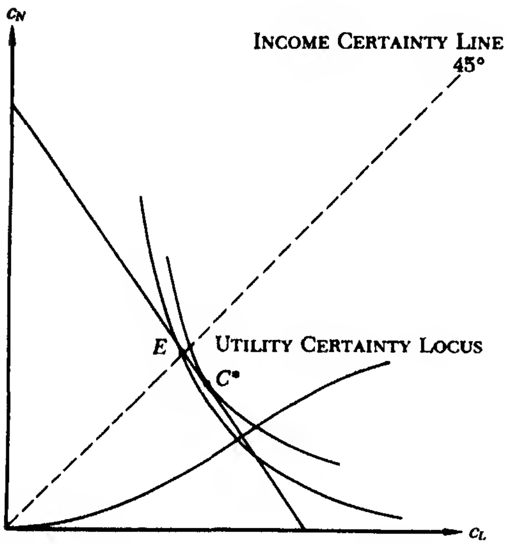

Figure 4b. "HEIRLOOM" INSURANCE

of a single generalized "income" commodity c. Here utility is a function of both c and an "heirloom" variable h, where $h = 0$ defines the loss state L and $h = 1$ the non-loss state N. Hence the two curves $v_N(c)$ and $v_L(c)$ do not represent distinct utility functions, but different sections through a single $v(c,h)$ function.

With state-dependent utility, the 45° *income* certainty line (ICL) is no longer the individual's utility certainty locus (UCL). Someone on the 45° line would not be indifferent as to whether state N or L occurs. In Figure 4b, the UCL lies toward the c_L axis, since the individual requires more income in state L than in state N if he is to "fully insure utility" [25, Philip J. Cook and Daniel A. Graham, 1977].

The individual optimization condition will, apart from the N or L subscripts attaching to the marginal utilities v', have the same form as equation (1.4):

$$\frac{\pi_L v_L'(c_L)}{\pi_N v_N'(c_N)} = \frac{P_L}{P_N} \tag{1.6}$$

Assuming, as a benchmark, that prices are fair, (1.6) reduces to:

$$v_L'(c_L) = v_N'(c_N) \tag{1.6'}$$

With actuarial insurance available, the individual thus equates his marginal utilities in the two states as before, but these marginal utilities are now slopes along differing $v(c)$ curves.

With uncertainty only over the possible loss of the "heirloom," the individual has an initial endowment point E on the 45° income certainty line. Therefore insurance against the loss state is optimal, at actuarial prices, if and only if the indifference curve through E is steeper at this point than the budget line, that is if:

$$v_L'(c_E) = \frac{\partial v}{\partial c}(c_E, 0) > v_N'(c_E) = \frac{\partial v}{\partial c}(c_E, 1)$$

The desirability of insuring against the loss state thus depends upon whether or not income c and the "heirloom" variable h are Edgeworth substitutes—*i.e.*, whether the cross-derivative of the two-dimensional cardinal preference-scaling function $v(c,h)$ is negative. For an heirloom such as an ancestral painting with negligible cash value it is hard to establish an *a priori* case either way. We can thus expect to find that some people insure such objects while others, similarly situated, do not.

But suppose $h = 0$ represents a major injury. Then the marginal utility of income will probably be higher in the loss state (one "needs" income c more than

before). In such cases the optimum C^* lies to the southeast of the income certainty line, though not necessarily southeast of the utility certainty locus. The individual will buy insurance against injury, but not necessarily so much as to be "fully insured" in the sense of not caring whether or not the injury occurs.

The situation is very different if the variable h represents the life of one's child. It then seems plausible that h and c are complements; if your child dies ($h = 0$) you have *less* need for income, since you planned to spend it largely on him. In such a case it is optimal to transfer income from the loss state to the non-loss state. That is, to "reverse insure"—to bet that the loss would not occur. (Contractually, instead of insuring your child's life you might buy a life annuity for him.)

We see that once allowance is made for state-dependent utility, it can no longer be presumed that individuals offered actuarial insurance terms will move to certainty positions—either certainty with respect to income, or with respect to utility.

Adverse Selection and Moral Hazard:

We now turn back to the simple assumption of state-independent utility, and also assume away "social risk," in order to isolate another force operating upon individual decisions and market equilibrium: the inability of insurers to perfectly monitor the behavior or identify the risk-status of insureds. (Since this is a kind of *informational* problem, our analysis here has close ties with topics to be taken up in Part II below.)

To stick to essentials, we need only consider two risk classes with the same initial wealth ω and facing the same potential loss ξ. In the absence of insurance the high-risk class, with loss probability π', has an expected utility of $\pi' v(\omega - \xi) + (1 - \pi')v(\omega)$. This is represented by the distance $A'B'$ in Figure 5. If members of this risk class are identifiable by the insurers (by the other members of the mutual insurance pool), fair insurance will result in their being offered full coverage for a premium of $\pi'\xi$—equal to the mathematical expectation of loss. These individuals then choose certainty position C' in Figure 5 (equivalent to being on the 45° line in Figure 2). Expected utility is $v(\omega - \pi'\xi)$, equal to the distance $A'C'$ in the diagram.

Similarly, if members of a low-risk class with loss probability π'' can be identified, insurance at actuarial terms will raise their expected utility from $A''B''$ to $A''C''$.

But what if the insurers have no way of distinguishing individuals belonging to different risk classes? Suppose they offer insurance on a full-coverage-or-none basis, initially using the average probability of loss $\bar{\pi}$. The resulting expected utility of those purchasing the insurance, $v(\omega - \bar{\pi}\xi)$, is given by the distance DE in Figure 5. The high-risk class would be getting a bargain, but the low-risk class *may* (as shown here) be better off without any coverage ($A''B'' > DE$). If so, the latter drop out of the insurance pool; only the high risks insure. The premium in equilibrium would of course be $\pi'\xi$, reflecting the loss probability of the high-risk class.

This is the problem of *adverse selection.* While we have described it in the insurance context, it is a much more general phenomenon. Whenever buyers can only observe average quality, there is a tendency for sellers not fully rewarded for high quality to withdraw from the market. In one extreme model George A. Akerlof [1, 1970] showed that even if the used cars in existence represent a merit continuum, only the lowest-quality "lemons" would actually be traded.

More generally, however, the equilibrium may not be quite so extreme. With somewhat greater risk-aversion, in Figure 5 the $v(c)$ curve might have warranted participation even of the low-risk class in the insurance pool, at prices based on the average odds $\bar{\pi}$. With a risk continuum

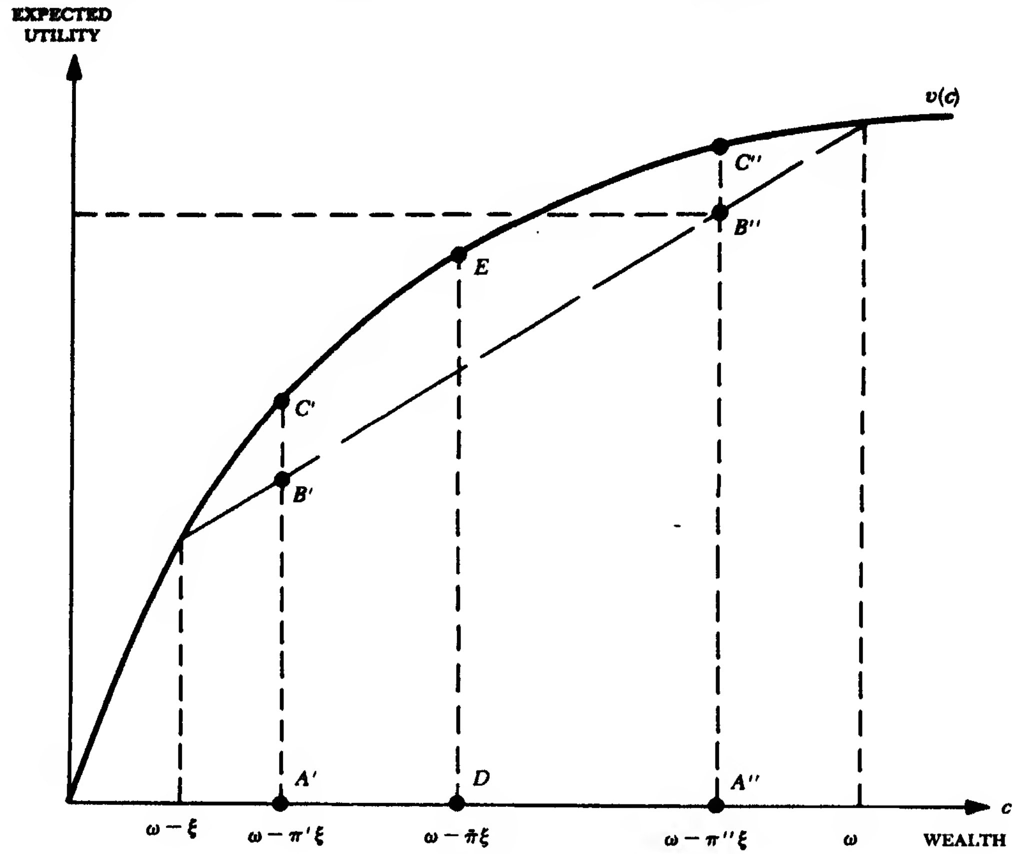

Figure 5. ADVERSE SELECTION

also, the pool of participants may include everyone from the lowest quality up to some cutoff point [149, Richard Zeckhauser, 1974]. Returning to Figure 5, suppose now that the risks are distributed over a range of loss probabilities, the interval $[\pi'', \pi']$. Since insurance yields an expected-utility gain of $B'C'$ to the highest-risk class, those with not too dissimilar loss probabilities are also better off purchasing the same type of policy. Such participation lowers the average probability of loss and improves the actuarial premium, thereby drawing still better risks into the insurance pool. The process continues until the marginal risk class is just indifferent between no coverage and full coverage at a premium reflecting the average probability of loss for all those in the pool.

So far we have been assuming, in effect, a world of pure exchange: we have allowed people to *trade* risks (to engage in mutual insurance) but not to *modify* risks by productive activities. Such modifications might take the form of committing resources to *loss reduction* (reducing the gap between c_N and c_L) or to *loss prevention* (reducing the loss-probability π_L) [33, Ehrlich and Becker, 1972; 92, Marshall, 1976]—apart from or in addition to purchase of market insurance. More commonly the problem is viewed the other

way. Might individuals who purchase insurance be inclined not to undertake protective measures that would reduce the scale or chance of loss? This is what is called *moral hazard.*

Since efficient prices are proportioned only to the *probability* of loss, if π_L is known and fixed there is no need for insurers to guard against inadequate loss-reduction activity by price-taking risk-owners; the decisions of the insureds lead automatically to a Pareto-efficient *production and distribution* of risks [92, Marshall, 1976]. And if π_L is variable but subject to costless monitoring by insurers, prices would respond appropriately and thus would continue to induce efficient loss-prevention activity as well as market risk-sharing transactions [135, Michael Spence and Zeckhauser, 1971]. Another way of looking at this is to note that, in principle, variation of *probability* of loss is equivalent to variations in the *amounts* of loss under a suitably extensive specification of states of the world [57, Hirshleifer, 1970, p. 217]. Thus, with perfect monitoring, insurance terms can always be based upon the fixed probabilities of the true underlying states. If insurers could offer suitably different premium/indemnity ratios for losses under perfectly observable contingencies like a 10-foot flood, a 20-foot flood, *etc.*, they need not be concerned with how high a dike the insured chooses to build.

Realistically speaking, however, monitoring of states will be imperfect. Insurers cannot be certain about the true flood hazards, fire hazards, or medical hazards experienced by insureds. Consequently, very often contracts have to be written in terms of "result-states" [92, Marshall, 1976]—actual observed losses—rather than the true underlying states. Then, if in the extreme case price did not respond at all to loss-prevention activity, no such activity would be undertaken.

Insurers have two main ways of coping with the problem [6, Arrow, 1963; 104, Mark Pauly, 1968; 148, Zeckhauser, 1970]. The first is to require the insured party to bear some portion of the risk, for example, by a "deductible" provision (indemnity will be less than the loss by a fixed amount) or by "coinsurance" (indemnity will be a proper fraction of the loss). Then insurance will be provided, but moral hazard persists in that insureds will engage in less preventive activity than would be efficient with costless monitoring. In addition, risk-spreading through insurance is less than ideal. The second way of coping is to price insurance in accordance with the *actual loss-prevention behavior* of insureds (the height of the dike built), the idea being that to monitor behavior may be easier than monitoring the underlying states. Again, as this process is subject to slippage and uncertainty, there is less preventive activity and less risk-spreading through insurance than would be optimal.

1.2.3 *Complete and Incomplete Market Regimes, the Stockmarket Economy, and Optimal Production Decisions.* We have briefly alluded above to the possibility that, under uncertainty, a *complete* set of markets may not be available to economic agents. More formally, a regime of Complete Contingent Markets (CCM) will exist if, with S distinct states of the world, the S elementary state-claims c_s ($s = 1, \ldots, S$) are all separately tradable. In such a regime each individual i with endowment $\omega^i \equiv (\omega_1^i, \ldots, \omega_S^i)$ and facing prices $P \equiv (P_1, \ldots, P_S)$ chooses some vector of trades t^i satisfying $P \cdot t^i = 0$. Equating marginal rates of substitution with the corresponding price ratios, the necessary condition for a utility-maximizing consumption choice of $c^i \equiv \omega^i + t^i$ is then:

$$\frac{\pi_s v'(c_s^i)}{\pi_1 v'(c_1^i)} = \frac{P_s}{P_1} \text{ for all } s. \tag{1.7}$$

This is of course a generalization of equation (1.4) above. More generally, trading in any S distinct *assets* representing com-

binations or packages of the c_s-claims will also constitute a CCM regime provided the assets are linearly independent (*i.e.*, that none of them can be expressed as a linear combination of the others). For, any desired vector c^i can then be attained by holding an appropriate combination of the S assets.

There is however a rather large gap between the CCM model and reality. Given the infinite variety of conceivable contingencies of economic interest (possible inventions, disasters, political developments, taste changes, *etc.*), in practice market regimes will necessarily be severely incomplete. Economic agents cannot in fact trade, directly or indirectly, in every distinct contingent claim. There are a number of different incomplete market regimes, some of which will be studied in more detail in Part II. For example, it might be the case that for some or all commodities only *certainty* claims rather than *contingent* claims are tradable: one might be able to contract to deliver wheat, but there might be no effective market in wheat contingent upon the Republicans winning the next election.

We will consider here one interesting regime of incomplete markets: a "stockmarket economy." Here each individual i has an untradable endowment $\omega^i = (\omega_1^i, \ldots, \omega_S^i)$ plus endowed amounts of tradable *shares* $(\bar{\alpha}_1^i, \ldots, \bar{\alpha}_F^i)$ of the F "firms" in the economy. Each firm corresponds to a state-claim vector $\omega^f = (\omega_1^f, \ldots, \omega_S^f)$.

If each firm's holding has market value V_f, the individual's decision problem is to choose a portfolio $(\alpha_1^i, \ldots, \alpha_F^i)$ subject to his marketable wealth constraint:

$$\Sigma_f \alpha_f^i V_f = \Sigma_f \bar{\alpha}_f^i V_f \tag{1.8}$$

His final consumption is $c^i \equiv \omega^i + t^i$ where:

$$t^i = \Sigma_f(\alpha_f^i - \bar{\alpha}_f^i)\omega^f \tag{1.9}$$

The individual then chooses a portfolio to maximize:

$$u(\alpha_1^i, \ldots, \alpha_F^i) = \Sigma_s \pi_s v(c_s^i) \tag{1.10}$$

subject to (1.8) and (1.9). To achieve this he expands or contracts his holdings in the different firms until the expected marginal utility of a dollar invested in each asset is equated to his expected marginal utility of wealth, λ^i, that is:

$$\frac{\Sigma_s \pi_s v'(c_s^i)\, \omega_s^f}{V_f} = \lambda^i \tag{1.11}$$

for all f and all i.

This directly implies:

$$\frac{\Sigma_s \pi_s v'(c_s^i)\, \omega_s^f}{\Sigma_s \pi_s v'(c_s^i)\, \omega_s^1} = \frac{V_f}{V_1} \tag{1.12}$$

for all f and i.

This relation, in comparison with (1.7), indicates an optimization constrained by the set of assets or claims packages (firms $f = 1, \ldots, F$) through which trading may take place. Unless the set of tradable assets constitutes a Complete Contingent Market (which cannot be the case if $F < S$, or more generally if the F asset vectors fail to span the full S-dimensional space), it will not in general be possible for individuals to achieve the Pareto-efficient vector of net trades by purchase and sale of shares. However, it can be shown that the stockmarket economy is efficient in the restricted sense of achieving Pareto-preferred allocations of the tradable shares of different firms [30, Peter A. Diamond, 1967].

Two related questions have received considerable attention: (1) Will shareholders in general be *unanimous* in support of the firm's production decision, and (2) if so, will the optimal decision be such as to maximize the firm's *market value* V_f? In the simpler model of certainty choices, it is well-known that unanimous support for maximization of market value follows when a "separation theorem" holds. If there are perfect competitive markets and no technological externalities among firms, maximization of firm value implies

that every shareowner's wealth and thus his consumption opportunities will be maximized. In the absence of the stated conditions, the separation theorem does not in general hold. For example, if the firm has significant monopoly power, the shareowner must balance increases in wealth against the loss he suffers as a consumer having to pay higher prices. And if differing shareowners have different tastes or endowments, the failure of separation will imply non-unanimity as well.

Very much the same holds for the firm's decisions in a world of uncertainty. In a stockmarket economy, in particular, shareowners will unanimously support value maximization if the firm's decision can have only a negligible perceived effect upon their marginal utilities in the different states. This condition will be violated if the firm can have a significant effect upon the aggregate supply of claims to any particular state s, akin to its having a degree of monopoly over c_s-claims. As an important special case, the condition will fail if the productive options before the firm enable it to create otherwise unavailable patterns (ratios) of state-claims. And again, unanimity fails if there is technological interdependence between this firm and any other firm, since there generally will be overlapping ownership between the two [30, Diamond, 1967; 34, Steinar Ekern and Robert Wilson, 1974; 28, Harry DeAngelo, 1979].

1.2.4 *Other Applications.* In this Part I we have provided a relatively extensive treatment of insurance; under that heading we have been able to expound and illustrate, in rather simple format, most of the basic ideas of modern uncertainty theory. (Of course, we have scarcely been able to hint at the many exciting developments of a more advanced nature.) We have also referred briefly to other applications of uncertainty theory such as sharecropping and portfolio selection. A number of other significant applications can only be mentioned here: (1) optimal contracts between agent and principal, for example, to elicit ideal performance on the part of corporate managers [88, Jacob Marschak and Roy Radner, 1972; 51, Milton Harris and Artur Raviv, 1978; 133, Steven Shavell, 1978; 21, Steven N. S. Cheung, 1969; 49, Theodore Groves, 1973; 3, Armen A. Alchian and Harold Demsetz, 1972; 66, Michael C. Jensen and William A. Meckling, 1976; 150, Thomas S. Zorn, 1978]; (2) corporate finance and, in particular, the balance between debt and equity funding [98, Franco Modigliani and Merton H. Miller, 1958; 74, John Lintner, 1962; 56, Jack Hirshleifer, 1966; 37, Eugene F. Fama and Merton H. Miller, 1972, chap. 4]; (3) optimal behavior and equilibrium with respect to accidents [143, William Vickrey, 1968; 19, Guido Calabresi, 1970; 15, William Baumol, 1972; 31, Peter A. Diamond, 1974]; (4) the "value of life" appropriate for risk-taking decisions [97, Ezra J. Mishan, 1971; 140, Richard H. Thaler and Sherwin Rosen, 1976; 24, Bryan C. Conley, 1976; 127, Thomas C. Schelling, 1968; 68, Michael Jones-Lee, 1976; 73, Joanne Linnerooth, 1979; 16, Theodore Bergstrom, 1974]; and (5) choice of discount rate for public investment [56, J. Hirshleifer, 1966; 11, Kenneth J. Arrow and Robert C. Lind, 1970; 124, Agnar Sandmo, 1972; 12, Martin J. Bailey and Michael C. Jensen, 1972; 93, Joram Mayshar, 1977].

II. *The Economics of Information*

In Part I individuals were limited to terminal actions, permitting them only to *adapt* to uncertainty. In Part II we examine the consequences of informational actions, which allow them to *overcome* uncertainty. Paralleling the sequence of topics in Part I, Section 2.1 first analyzes the optimizing choices of the decision-making unit. Section 2.2 covers market equilibrium and, in particular, the interrelated prior and posterior equilibria as-

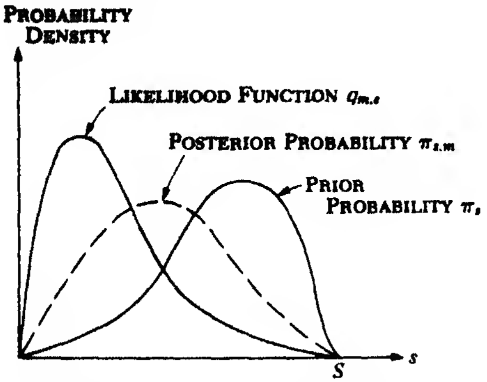

Figure 6. BAYESIAN PROBABILITY RECALCULATION

sociated with the receipt of *public* information. This is followed in Section 2.3 by a discussion of the incentives to seek out *private* information, as in inventive effort. In Section 2.4 we examine processes by which information is revealed in market prices. Finally, a brief discussion of rational expectations and informational efficiency appears in Section 2.5.

2.1 *Informational Decision-making*

2.1.1 *Acquisition of Information.* We continue to assume that the set of acts $a = (1, \ldots, A)$, the set of states of the world $s = (1, \ldots, S)$, and the associated consequences $c(a,s)$ are all known to the individual. He has, as before, a prior probability distribution of initial beliefs π_s as to the states of the world. The new element is that he can acquire information, receiving one of a known set of possible *messages* $m = (1, \ldots, M)$ that in general will lead to a revision of probability beliefs. And thus in turn, to a possible revised choice of action.

In the extreme case, a message m might be *conclusive* as to the occurrence of some particular state s^*—in which case the revised or posterior belief distribution will attach probability of unity to state s^* and zero to all other states. More generally, the warranted revised probability belief $\pi_{s.m}$ attaching to state s after receiving message m is determined by Bayes' Theorem:

$$\pi_{s.m} = \Pr\{s|m\} = \frac{\Pr\{m|s\}\Pr\{s\}}{\Pr\{m\}} = \frac{q_{m.s}\pi_s}{q_m} \tag{2.1}$$

The probability q_m of receiving message m is related to the conditional probabilities or "likelihoods" $q_{m.s}$ (of receiving message m in each state s) by:

$$q_m = \sum_{s=1}^{S} q_{m.s}\pi_s \tag{2.2}$$

Figure 6 is a suggestive illustration of Bayesian recalculation of probabilities on the basis of a given message m, where the possible states of the world are a continuum of values of s from zero to some upper limit S. In the prior distribution pictured, the bulk of the initial probability weight is assumed to lie toward the high end. But, as the likelihood function indicates, a message (evidence) has been received that is much more likely if s has a small rather than a large value. The posterior probability distribution is a compromise or average of the other two curves, derived by multiplying (for each s) the prior probability π_s and the likelihood $q_{m.s}$—as indicated in the numerator of equation (2.1)—and then rescaling by the denominator factor so that the probability integral comes to unity.

The individual's *confidence* in his initial beliefs is indicated by the "tightness" of his prior probability distribution—the degree to which he approaches assigning 100 percent prior probability to some single possible value for s. Evidently, the higher the prior confidence the more the posterior probability distribution will resemble the prior for any given weight of evidence. As we shall see in detail below,

greater confidence implies attaching lesser value to acquiring evidence.

We now turn to the revision of optimal terminal actions consequent upon acquisition of information. The terminal-action decision problem of Section 1.1 above, for any given set of probability beliefs π, can be written:

$$\underset{(a)}{\text{Max}}\ u(a;\pi) = \sum_{s=1}^{S} \pi_s v(c_{as}) \tag{2.3}$$

The values of *informational* actions are essentially based upon the expected utility gains from shifting to better choices among the set of *terminal* actions. In particular, denote as a_0 the optimal terminal action that would be chosen before receiving any message—*i.e.*, using the prior probabilities π_s in equation (2.3). If now a particular message m is received, the decision-maker would use (2.3) again, but with revised probabilities $\pi_{s.m}$ possibly leading to a new choice of terminal action a_m. Then Δ_m, the "value of the message m" can be written:

$$\Delta_m = u(a_m,\pi_{s.m}) - u(a_0,\pi_{s.m}) \tag{2.4}$$

Note that Δ_m, which is necessarily nonnegative, is an *ex post* valuation. It represents the expected gain from revision of best action, estimated in terms of the revised probabilities.

However, the decision to seek information must necessarily be made *ex ante*. One is never in the position of choosing whether or not to receive the particular message m; the essence of the problem is that the information-seeker does not know in advance which of the set of possible messages $m=(1,\ldots,M)$ he will obtain. What the agent can actually purchase is not a particular message but an *information service* μ—generating a probability distribution of messages m [87, Jacob Marschak and Koichi Miyasawa, 1968].

An information service μ is "objectively" characterized by its matrix of likelihoods $Q=[q_{m.s}]$. As we have seen, matrix Q together with the individual's subjective prior probability vector $\pi = [\pi_s]$ imply a posterior probability matrix $\Pi = [\pi_{s.m}]$ and message probability vector $q = [q_m]$. Then (Π, q) represents a *personal* characterization of μ. Utilizing the message probabilities, the individual can calculate the *value* $\Delta(\mu)$ *of the information service* to him as the expectation of its associated message values Δ_m:

$$\begin{aligned}\Delta(\mu) &= E(\Delta_m)\\ &= \Sigma_m q_m[u(a_m,\pi_{s.m})\\ &\qquad - u(a_0,\pi_{s.m})]\end{aligned} \tag{2.5}$$

Since, as already indicated, each Δ_m represented by the bracket in (2.5) is nonnegative, an information service can never lower the agent's expected utility (before allowing for the cost of acquiring that service).

In Figure 7 the determination of $\Delta(\mu)$ is illustrated for a special case in which there are two states of the world ($s = 1,2$), three available terminal actions ($a = 1,2,3$), and an information service μ with two possible messages ($m = 1,2$). In the diagram utility is measured vertically, while the probabilities of the two states are scaled along the horizontal axes. Each possible assignment of probabilities to states is represented by a point along AB, a 135° line in the base plane whose equation is simply $\pi_1 + \pi_2 = 1$.

The utilities of consequences $v(c_{a1})$ attaching to the different actions if state 1 occurs are indicated by the points labelled $v(c_{11})$, $v(c_{21})$, and $v(c_{31})$ lying vertically above A in the diagram. Similarly, the utilities of outcomes in state 2—$v(c_{a2})$ for $a = 1,2,3$—lie above point B. The expected utility $u(a;\pi)$ of any action a given any probability vector π is indicated by the vertical distance from the point $\pi = (\pi_1,\pi_2)$ along AB to the line joining $v(c_{a1})$ and $v(c_{a2})$ for that action. In the diagram, if π is the *prior* probability vector, then the best terminal action is $a = 1$ and the

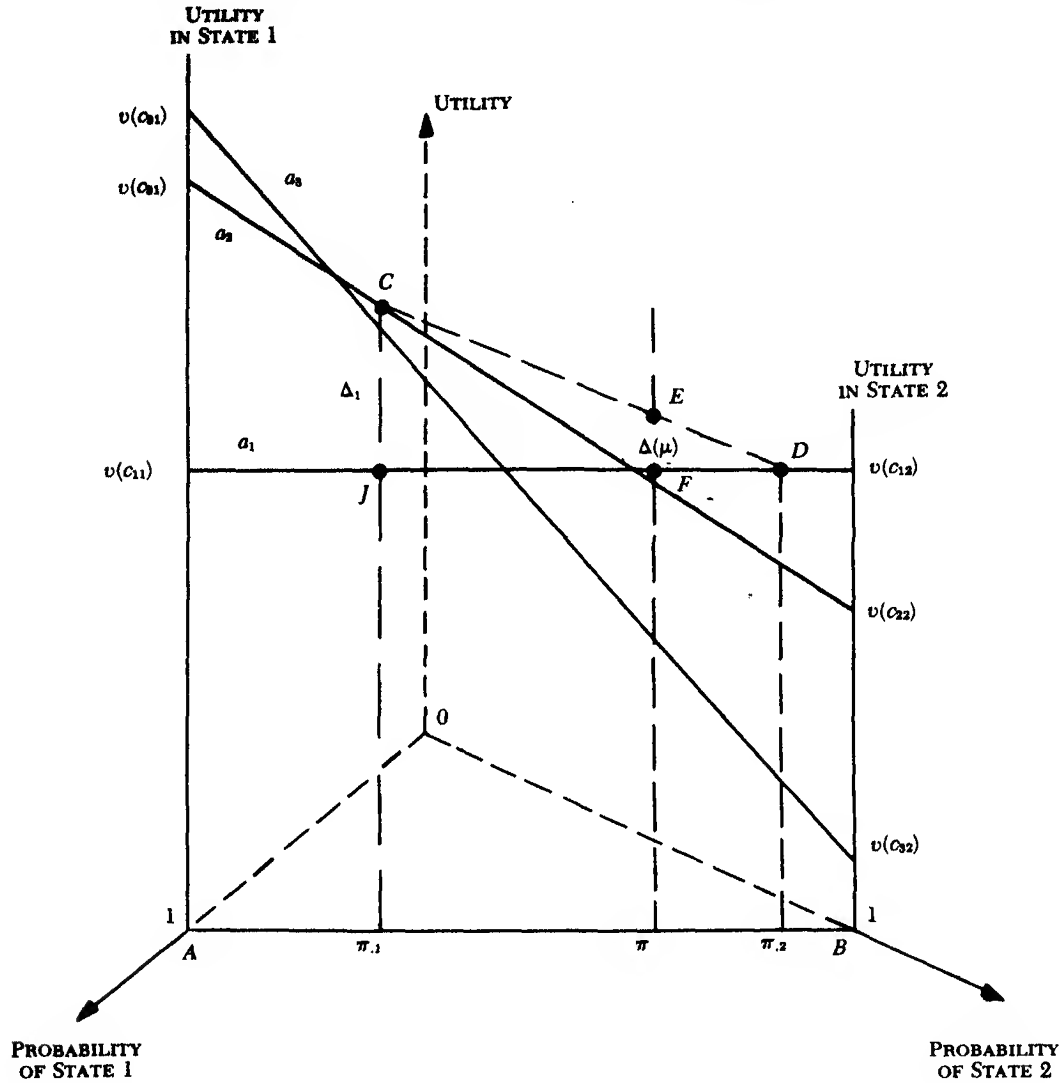

Figure 7. THE VALUE OF INFORMATION

associated utility is indicated by the height of point F above the base plane.

Suppose for simplicity that the information service $\hat{\mu}$ is costlessly acquired. Each of the possible messages $m = 1,2$ will lead to a revised probability vector $\pi_{.m} = (\pi_{1.m}, \pi_{2.m})$. If $m = 1$, the revised optimal action in Figure 7 is $a = 2$ (point C) with Δ_1 (*ex post* utility gain over $a = 1$) equal to the vertical distance CJ. If $m = 2$, the best action in the diagram remains $a = 1$ (point D), so $\Delta_2 = 0$. Weighting Δ_1 and Δ_2 by the message probabilities q_1 and q_2, the value $\Delta(\mu)$ of the information service is represented by the vertical distance EF above the point π along the line AB.

Figure 7 also helps us see why higher prior confidence implies lower value

of information. Higher confidence—a tighter prior probability distribution in Figure 6—means that any given message or evidence will have a smaller impact upon the posterior probabilities. Then, in Figure 7, the posterior probability vectors $\pi_{.1}$ and $\pi_{.2}$ would both lie closer to the original π. It is evident that the effect (if any) can only be to shrink the distance *EF* that represents the expected value of acquiring evidence.

One information service $(\hat{\Pi},\hat{q})$ is said to be "more informative" than another (Π,q), from the point of view of an economic agent, if it yields sometimes higher and never lower expected utility regardless of the menu of actions [86, Jacob Marschak, 1971]. Between some information services an informativeness ordering is clearly possible: a random sample of 2, we know, must be more informative than a sample of 1. But, in general, informativeness can only be partially ordered. The condition for $(\hat{\Pi},\hat{q})$ to be more informative than (Π,q) is that the posterior probability vector associated with each message under the latter must be a convex combination of the posterior probabilities under the more informative service. For example, with two messages in each case, $(\hat{\Pi},\hat{q})$ is more informative than (Π,q) if for some α,β between zero and unity:

$$\pi_{.1} = \alpha\hat{\pi}_{.1} + (1-\alpha)\hat{\pi}_{.2}$$

and

$$\pi_{.2} = \beta\hat{\pi}_{.1} + (1-\beta)\hat{\pi}_{.2} \qquad (2.6)$$

One interpretation of these conditions is that the recipient of the information service (Π,q) knows that the true messages 1 and 2 would imply revised probabilities $\hat{\pi}_{.1}$ and $\hat{\pi}_{.2}$. However the messages have become garbled in transmission, so that he is not sure which message he has actually received. For example, his received message 1 has chance $(1-\alpha)$ of really being the true message 2.

These conditions are easily visualized in terms of Figure 7, which pictures a particular information service (Π,q) leading to posterior probability vectors $\pi_{.1}$ and $\pi_{.2}$. Suppose an alternative information service $(\hat{\Pi},\hat{q})$ also had two possible messages 1 and 2, but $\hat{\pi}_{.1}$ were to lie to the left of $\pi_{.1}$ and $\hat{\pi}_{.2}$ to the right of $\pi_{.2}$. The alternative service must lead to higher utility so long as there is any change in best conditional action under either message. If on the other hand the two posterior probability vectors of one service do not bracket the two posterior vectors of another, which one will be found "more informative" by an individual will depend upon the specifics of his personal situation.

Figure 7 also illustrates a general "nonconcavity" (condition of *increasing* marginal returns) in the valuation of information services [110, Radner and Joseph E. Stiglitz, 1976]. Starting with the null information service with posterior probabilities equal to the prior π, suppose a slightly informative $\hat{\mu}$ comes along with posterior probabilities $\hat{\pi}_{.1}$ just barely to the left of π and $\hat{\pi}_{.2}$ barely to the right. If the probability revisions are small, neither message changes the associated best action and there can be no utility gain. So the *marginal* return of improved information may be zero over a certain range, before becoming positive at the point where the improvement begins to affect action.

A number of interesting complications, which unfortunately cannot be pursued here, arise when the informational decision process has multipersonal aspects. One important example is the use of "expert opinion"—the problems being to disentangle what is genuinely new in the information provided, and also to allow for possible conflict of interest between expert and client [132, Shavell, 1976; 105, Judea Pearl, 1978, 46, Jerry Green, forth.]. Other issues arise when a *group* of people must jointly make an information decision [111, Raiffa, 1968, chap. 8]. The problems here stem once again from possible con-

flicts of interest (differences in utilities attached to consequences), but also from conflicts of opinion (differences in probability beliefs). Depending upon the circumstances, these factors may lead either to overinvestment or underinvestment in information.

2.1.2 *Other Informational Activities.* So far, under the heading of informational action we have only considered the *acquisition* of evidence—as by generation of sample data (the production of socially "new" information) or the receipt of expert advice (the interpersonal transfer of "old" information). But other types of informational activities can also be very important. The possibility of acquiring information from others, as discussed in connection with expert opinion above, immediately suggests the reverse activity—the *dissemination* of information to other economic agents. This might be done for a price, as when one is hired as an expert, but (as we shall see below) sometimes it may pay to disseminate gratuitously, or even to incur cost to "push" information to others [60, Hirshleifer, 1973]. Advertising is an obvious example. There is also a choice between disseminating publicly ("publishing"), or else privately to a select audience. As a question of authenticity might arise in all such cases, the receiver of information may devote effort to the process of *evaluation*, possibly assisted by *authentication* activities (or hampered by *deception* activities) on the part of the disseminator. There is also the possibility of unintended dissemination, achieved by *espionage* or *monitoring* on the part of information-seekers—possibly leading to countermeasures in the form of *security* (secrecy-maintaining) activities by the possessors of information.

Finally, there are classes of activities, apart from those involved with acquisition or dissemination of information, that are indirect consequences of informational patterns. Wagering, for example, typically follows from differences of opinion in a situation where conclusive information is anticipated (so as to determine who wins and who loses). *Speculation* is a somewhat analogous activity, which turns on a prospective revision of prices in consequence of the arrival of information. Another form of activity, which will be considered in the next section below, involves the adoption of more or less "flexible" positions in anticipation of ability to make use of future information when it arrives.

2.1.3 *Emergent Information and the Value of Flexibility.* In the sections preceding we thought of information as being newly generated by an informational action like a sampling experiment or, alternatively, as acquired from others via a transaction like the purchase of expert opinion. But in some cases information may autonomously *emerge* simply with the passage of time, without requiring any direct action by recipients. Tomorrow's weather is uncertain today, but the uncertainty will be reduced as more meteorological data flow in and will in due course be conclusively resolved when tomorrow arrives. Direct informational actions might still be useful, by providing knowledge *earlier* than it would autonomously arrive. But under conditions of emergent information, one might choose a kind of indirect informational action—adopting a flexible position and *waiting* before taking terminal action.

Suppose a choice must be made now between immediate terminal action and awaiting emergent information. This choice can only be interesting where there is a trade-off between two costs: (1) a cost of waiting, versus (2) an "irreversible" element in the possible loss suffered from mistaken early commitment. Exactly these elements have been involved in analyzing the benefit of actions that irreversibly transform the environment [10, Arrow and Anthony C. Fisher, 1974; 54, Claude Henry, 1974] and in discussions of the

value of "liquidity" [84, Jacob Marschak, 1949; 59, Hirshleifer, 1972] or of "flexibility" [89, Thomas Marschak and Richard Nelson, 1962; 67, Robert A. Jones and Joseph Ostroy, 1976].

To illustrate these ideas, consider again Figure 7. Suppose an action is to be chosen in each of two time periods ($t = 0,1$), but information is to emerge that might improve the decision at $t = 1$. Let the payoff to the different actions be the same in each period. With no cost of switching, the diagram shows that the best action at $t = 0$ is a_1. At $t = 1$ this action will again be optimal unless message 1 is received, in which case a_2 becomes superior.

However, suppose that the cost of switching from action a_1 to a_2 exceeds the cost of switching from a_2 to a_1. So a_2 is the more "flexible" choice. If a_2 is chosen at $t = 0$ there would be an initial-period loss in expected utility. But if this cost is sufficiently small relative to the differential in switching cost and the expected value of the emerging information, a_2 may become the preferred initial-period action. Here the initial-period loss (reduction in payoff due to choice of a_2) is the cost of waiting (or of maintaining flexibility); the counterbalancing "irreversible" loss, due to early commitment to a_1, is the extra cost of switching should that be required.

2.2 *Public Information and Market Equilibrium*

Emergence of new public information will affect prices. In particular, relative market values will rise for those assets paying off more handsomely in states of the world now regarded as more likely. The anticipated arrival of public information requires economic agents to contemplate market exchanges in two distinct rounds —*trading prior to and posterior to receipt of the message.* The equilibria of the two trading rounds will generally be interrelated, but the form of the relationship depends upon the completeness of markets (see Section 1.2.3 above) in each round.

2.2.1 *Equilibrium in Complete versus Incomplete Market Regimes.* In Part I we mainly considered models with S states of the world and a single consumptive good c. In the realm of the *economics of uncertainty*, where arrival of public information is not anticipated, a regime of Complete Contingent Markets (CCM) was said to exist if all the distinct c_s-claims (S in number) are separately tradable at prices P_s. (Trading in any set of S linearly independent asset combinations of the underlying c_s-claims would also constitute a CCM regime, but we will generally ignore this complication.) In equilibrium, the optimality condition (1.7) holding for each individual can conveniently be repeated here:

$$\frac{\pi_s v'(c_s)}{\pi_1 v'(c_1)} = \frac{P_s}{P_1} \; (s = 2, \ldots, S) \qquad (2.7)$$

To achieve this condition, individuals will generally undertake *productive transformations* (*e.g.*, loss-reduction and loss-prevention activities) as well as *market exchanges* (*e.g.*, purchase of insurance).

Now consider that public information is expected to arrive before the close of trading. We will generally be assuming, however, that the message is not timely enough to permit *productive* adaptations to the changed probabilities. For example, a message as to increased flood danger comes in time to affect the market terms of flood-insurance transactions, but not in time to permit construction of dikes.

As an initial special case, assume it is known that the message will be *conclusive* as to which state of the world will obtain. Then to each and every state s corresponds exactly one message m. In these circumstances Complete Contingent Markets (CCM) in the *prior round* will, just as before, provide for separate trading in the S distinct c_s-claims at prices P_s. Under

the timing assumption of the previous paragraph, posterior trading is in general possible. But such trading would be meaningless in this special case; once it becomes known that some single state s^* is the true one, c_{s^*} is the only state-claim retaining any market value, and there is nothing available for exchanging against it. So equations (2.7) in the prior round are the *only* relevant conditions of equilibrium.

A more interesting model, continuing to assume that traders anticipate *conclusive* information, allows for multiple consumptive goods $g = 1, \ldots, G$. Here a regime of Complete Contingent Markets (CCM) in the prior round would allow trading in the $G \cdot S$ different claims c_{gs}—claims to any good g under any state s—at prices P_{gs}. After the conclusive message arrives that some state s^* will obtain, complete *posterior* markets would permit exchanges among the G commodity claims c_{gs^*}. But suppose for the moment that individuals were not aware, in their prior-round dealings, of this possibility of posterior trading. Then the prior-round optimality conditions would have included ratios of the following form, where g' and g'' are any two goods:

$$\frac{\dfrac{\partial v}{\partial c_{g's}}}{\dfrac{\partial v}{\partial c_{g''s}}} = \frac{P_{g's}}{P_{g''s}} \tag{2.8}$$

Note that π_s, whatever its value may be, is not involved in the optimality condition between different goods *contingent upon* state s. It follows that receipt of the incoming message, revising the probabilities π_s (in this particular case, making $\pi_{s^*} = 1$) does not affect this condition. Therefore the price ratio on the right-hand-side of (2.8) continues to sustain the solution arrived at in the prior round.

Thus we see that even though posterior exchanges are *possible* among the G remaining tradable claims c_{gs^*}, with CCM in the prior round no one will find such exchanges *advantageous*. Trading in the G posterior claims is "not needed" if there have been markets for $G \cdot S$ prior claims. We must however emphasize a very important qualification to this result: prior-round traders must *correctly forecast* that the price ratio on the right-hand-side of (2.8) will remain unchanged in the posterior round. If they mistakenly thought that it would change, they would be led to make "erroneous" prior-round transactions, affecting the market equilibrium and thus requiring corrective posterior-round transactions. The result would be a loss of efficiency. So CCM in the prior round (without posterior trading) suffices for Pareto optimality, but subject to a proviso of "correct conditional price forecasting" [62, Hirshleifer, 1977]. (This proviso corresponds to one of the meanings of that Delphic phrase, "rational expectations," to be discussed in Section 2.5 below.)

We can now generalize still further to the case where messages are *not conclusive* as to the advent of any particular state. With Complete Contingent Markets in the prior round, there would be $G \cdot S \cdot M$ distinct tradable claims c_{gsm}. And there remain $G \cdot S$ valid claims c_{gsm^*} in the posterior round after receipt of message m^*. But here also it is not difficult to verify that CCM in the prior round permits every agent to attain his optimum at one fell swoop—provided once again that everyone correctly predicts that the relevant posterior-round price ratios are unchanged [38, George Feiger, 1976]. So quite generally, given "correct conditional price forecasting" and a CCM regime for prior-round trading, posterior-round markets are available but not necessary for Pareto efficiency.

Very interesting and important issues arise, however, when we analyze prior-round market regimes that are *incomplete* (as of course they actually must be in the

world). To maintain simplicity, we will however return to the particular case of *conclusive* information. Then the set of M messages collapses into the set of S states so that individuals are concerned only with c_{gs} claims, $G \cdot S$ in number.

Among the many possible patterns of market incompleteness, three will be briefly discussed here.

Absence of Prior-Round Markets:

Total absence of prior-round markets is of course the most extreme form of incompleteness. In effect, what has happened is that the information arrives before *any* exchanges have taken place, while individuals are still at their endowment positions.

This situation has aroused considerable interest, as it implies the surprising result that incoming public information may be socially disadvantageous in the sense that everyone in the economy might be willing to pay *not* to have it! [58, Hirshleifer, 1971; 90, Marshall, 1974; 149, Zeckhauser, 1974; 50, Nils H. Hakansson, J. Gregory Kunkel, and James A. Ohlson, 1979.] As among a group of traders who would otherwise have mutually insured against fire, a conclusive message (as to whose houses would actually burn down) would negate the possibility of mutually advantageous risk-sharing through insurance. The prospective arrival of such information prior to the opening of markets imposes an undiversifiable wealth-redistribution risk on the economy; no one can hedge against the price impact of the message to be received. (On the other hand, if earlier arrival of information permits more effective *productive* adaptations, as in loss-reduction measures against fire, this socially valuable feature must be weighed against elimination of the ability to spread risks.)

Numeraire Contingent Markets (NCM):

Suppose instead that there is prior-round trading, but only in contingent claims to a *single* commodity—which might as well be taken as the numeraire good $g = 1$. In the prior market, individuals cannot purchase claims to *any* good contingent upon state s, but can purchase claims to (say) *corn* contingent upon state s. Under this Numeraire Contingent Markets (NCM) regime, these purchases are in effect side-bets as to which state of the world is going to obtain, whose outcome will determine the individual's posterior wealth. After receipt of the message, of course, the individual will use his enhanced or reduced wealth to purchase a preferred consumption basket in the *posterior* round of trading.

Arrow [7, 1964] has shown that the same equilibrium allocation as indicated by conditions (2.8) under CCM (with prior trading in $G \cdot S$ claims) is achievable under NCM with prior contingent trading only in the S claims to a single commodity. But given the prior-round incompleteness of this NCM regime, the availability of G markets in the posterior round becomes now quite essential. And once again, we must also specify the important proviso of "correct conditional price forecasting." Furthermore, this proviso here becomes more stringent than under CCM, where the correct forecast was simply "no change" from the prior price ratio P_{gs^*}/P_{1s^*} to the posterior ratio $P_{g \cdot s^*}/P_{1 \cdot s^*}$ (for the particular state s^* pointed to by the incoming message). Here, under NCM, the correct price forecast *is not in general computable from data available to traders in the prior round* [108, Radner, 1968; 32, Jacques H. Drèze, 1970–71]. The conditional relative supplies and demands determining the posterior ratios $P_{g \cdot s^*}/P_{1 \cdot s^*}$ are not publicly "visible" in the prior round, where only claims to $g = 1$ are being traded. (Only the absence of utility complementarities between the numeraire and other goods could make the noncomputability of posterior prices irrelevant for prior decisions.)

Futures Markets (FM):

The CCM and NCM regimes both allow trading in state-contingent claims. Such trading does take place to some extent in the actual world, directly as in some insurance transactions or indirectly via trading in assets like corporate shares that can be regarded as packages of state-claims. But most of the trading observed in the world represents exchange of *unconditional* claims to goods. In a market regime allowing only the exchange of unconditional claims to G consumptive goods, under conclusive emergent information the prior and posterior rounds can be respectively identified with current "futures" markets versus later "spot" markets.

Under such a regime of unconditional or, as we shall say, Futures Markets (FM) there will be just G tradable claims in the prior round followed by possible re-trading in the same claims in the posterior round. Since it is reasonable to assume that $G < S$ (there are many more conceivable contingencies than goods), it is evident that the $G + G$ markets in two rounds under FM cannot in general achieve the same efficiency as the $S + G$ markets under NCM (or, *a fortiori*, as the $G \cdot S$ plus G markets under CCM) [142, Robert M. Townsend, 1978].

This negative conclusion is somewhat mitigated, however, once we allow for the fact that emergent information in the world is only rarely *conclusive*. If improved though not yet conclusive public information emerges repeatedly, the multiplication of rounds of trading recreated after each informational input increases the effectiveness of FM relative to NCM and CCM. (Once again, the proviso as to correct conditional price forecasting retains its relevance and is indeed increasingly difficult of achievement.) Also, in general, multiple rounds can only partially offset market incompleteness, so that full Pareto efficiency is not achieved. More troubling, there may be different *self-fulfilling predictions* about prices in future trading rounds, leading to different equilibrium allocations—and these allocations may be Pareto-rankable [52, Oliver D. Hart, 1975].

2.2.2 *Speculation.* The term "speculation" has caused a good deal of confusion. Some authors loosely apply the word to arbitrage between markets, or to storage of goods over time or carriage over space—activities that do not involve uncertainty in any essential way. For our purposes, speculation is purchase with the intention of re-sale, or sale with the intent of re-purchase, where the *uncertainty of the future spot price* is a source of both risk and gain. The probabilistic variability of price is in turn *due to anticipated emergence of information.* Each possible message (in the conclusive information case that we shall be assuming here, this is equivalent to the advent of a single possible state) leads to an associated equilibrium posterior price vector, benefiting agents who adopted trading positions generating relatively high conditional wealths for that state.

Among the possible determinants of speculative activity, John Maynard Keynes [70, 1930] and John Hicks [55, 1946] followed by many others have emphasized differential *risk-aversion.* In their view, in the prior round of a Futures Markets (FM) regime the relatively risk-tolerant speculators accept risks of price variability from relatively risk-intolerant "hedgers." In the prior trading round, speculators buy commodity futures, achieving on average a small gain (excess of later mean spot price over futures price), which represents the return they receive from suppliers unwilling to bear the price risk. For example, a wheat-grower hedges by accepting a firm price now from a speculator, both of them anticipating that the unknown spot price will on average be a little higher. Later developments along this line [63, Hendrik S.

Houthakker, 1957; 64, 1968; 26, Paul H. Cootner, 1968] have brought out that hedgers can be on either side of the futures market; speculators need bear only the imbalance between "long" and "short" hedgers' commitments, so that the risk-compensating average price movement could go either way. In contrast with these views, Holbrook Working [146, 1953; 147, 1962] has denied that there is any systematic difference as to risk-tolerance between those conventionally called speculators and hedgers. Working emphasizes, instead, differences of *belief* (optimism or pessimism) as motivating futures trading.

The Keynes–Hicks concentration upon *aversion to "price risk"* is seriously misleading. Individuals' prior-round trading decisions are affected by "quantity risk" (variability of endowments over states) as well as by price risk [95, Ronald I. McKinnon, 1967]. Indeed, from the social point of view, price uncertainty is the (inverse) reflection of an underlying uncertainty as to the future aggregate commodity totals. And these risks tend to be offsetting, reducing the need to engage in prior-round hedging activity. For example, when the crop of a representative wheat-grower is big (good news) he will find that the wheat price tends to be low (bad news) and vice versa. In a Futures Markets (FM) regime it is in general not possible to divest oneself of *quantity risk* (since only certainty claims can be traded); consequently, traders might well find it preferable *not* to hedge against the offsetting *price risk*.

In a world where people have a spectrum of beliefs as to probabilities of future states, an individual's speculative activity proper (his adoption of a trading position in anticipation of arriving public information that will change market prices) depends in a rather complex way upon the degree of deviation of his beliefs from average opinion, upon his willingness to tolerate risks, and upon his endowment position conjoined with the trading limitations imposed by a regime of incomplete markets [61, Hirshleifer, 1975; 62, 1977]. With regard to the first of these determinants, a speculator with strongly deviant beliefs thinks that *others* will be surprised by the incoming message (and thus will be forced to make unanticipated posterior transactions). He will in consequence have adopted a trading position enabling him to benefit from these transactions. With regard to the second determinant, degree of risk-aversion affects the *scale* of preferred speculative exposure. As to the regime of markets, we saw in the preceding section that (assuming "correct conditional price forecasting") re-trading possibilities are not needed under Complete Conditional Markets (CCM). Thus, incompleteness of prior-round markets is also a necessary condition for speculation [122, Stephen W. Salant, 1976; 38, George Feiger, 1976].

2.3 *The Economics of Research and Invention*

Research and invention activities are prime instances of the *informational* actions studied, on the level of the individual economic agent, in Section 2.1 above. We are not dealing here with situations like those examined in Section 2.2, where public information simply emerges with the passage of time. Since Nature will not autonomously reveal her secret, it must be sought out by costly (generally private) search for the still-unknown "message." The topic of concern here however is not the informational decisions of an isolated Robinson Crusoe, but rather of individuals in a market environment facing rivalrous competition from some agents, but also having opportunities for mutually advantageous exchanges with others. In particular, as we shall see, successful private search generally leads to more or less universal dissemination of the discovery, with

price impacts akin to that of the public information studied in Section 2.2.

The central problem considered by modern analysts [80, Fritz Machlup, 1968; 5, Arrow, 1962] has been the conflict between the social goals of *achieving efficient use of information once produced* versus *providing ideal motivation for production of information.* With regard to optimal use, already-produced information is a "public good" in the sense that its availability to any member of society does not reduce the amount that could be made available to others. Then any barrier to use, as may stem from legal enforcement of patents or copyrights or property in trade secrets, is inefficient. On the other hand, as in the standard public-good situation, there will be inadequate motivation to invest in production of information if the product cannot be reduced to legally protected property.

Under ideal conditions the efficient-use problem could be solved by charging perfectly-discriminating fees to license (non-exclusively) all uses of a given idea. If the discoverer were granted full property rights in the idea, as by a perpetual copyright or patent, he in turn would have the optimal incentive to produce (search for) ideas. But in practice owners of copyrights or patents cannot impose perfectly-discriminating royalty fee structures on licensees. A patentee might instead maximize returns by granting *exclusive* licenses (in which case the social value of the excluded uses is of course lost) or by imposing fee structures that distort the marginal production decisions of licensees. On the other side of the picture, because of the elusiveness of property in ideas, there is uncertainty and unreliability in the legal protection of patents and copyrights, and even less protection for trade secrets not covered by patent or copyright. The result is that unlicensed uses often escape control. Short of ideal conditions there will be losses from *both* underproduction and underutilization, and in practice something of a trade-off: provision of greater legal protection to inventors tends to ameliorate the underproduction problem, but to worsen the underutilization problem.

More recent investigations have indicated, however, that not all the important elements of the picture have been captured by this analysis. These newer results turn upon the possibility of *over*investment in the production of ideas ("a rush to invent").

The first such factor is the *fugitive resource* (or *common-property resource*) nature of undiscovered ideas [13, Yoram Barzel, 1968]. For concreteness, we can use as metaphor the "over-fishing" model of H. Scott Gordon [43, 1954]. Suppose there are perfect property rights in fish caught, but complete free entry into fishing (*i.e.*, there are no property rights that exclude others from engaging in fishing as an activity). Then in competitive equilibrium there will be over-fishing; private marginal cost will equal price, but the true social marginal cost in fishing exceeds the private marginal cost. The reason is that a certain fraction of each fisherman's catch consists of fish that would have been caught anyway, by other fishermen—so the true social product of fishing effort is less than appears in private calculations. The upshot is that too many fish are caught, too soon. Among the remedies discussed in the fugitive-resource literature are the imposition of taxes or production quotas to reduce the amount of fishing activity, or alternatively the assignment of exclusive property rights to engage in such activity.

This last point may be clarified by explicitly distinguishing rights *in* fish (the right to exclude others from a fish you have caught) from rights *of* fishing (the right to exclude others from competing with you in fishing activity). Assuming fully protected rights *in* fish, the fugitive-

resource problem can be solved by also vesting rights *of* fishing—for example, by auctioning the right to exclusively exploit a fishery. Indeed, once rights *of* fishing are defined such an auction would tend to occur of its own, via Coase-Theorem negotiations. In the context of research, the equivalent distinction is between a right *in* an idea and a right *of* engaging in search for an idea. Again, one might imagine auctioning off the right *of* searching for an idea—for example, the right of inventing an alloy with specified properties. As the lowest-cost inventor would bid highest for this right, the "rush to invent" problem would be solved [22, Cheung, 1979; 23, 1979].

In research, the difficulty of defining the nature of an "uncaught" idea seems to make the assignment of rights *of* searching for them unfeasible. (Even in fishing, it is often impractical to define exclusive rights *of* hunting for such a wandering resource.) In contrast with fishing, however, property rights *in* ideas when caught are also very far from perfect. But, in the circumstances, this is not necessarily bad; being somewhat like a tax on inventive activity, defective rights *in* ideas reduce what otherwise might be an excessive "rush to invent."

Recapitulating at this point, we have seen two distinct possible justifications for limiting property rights in ideas—for example, by granting patents only for a term of years. The first is that some protection to inventors is traded off against protection to users of invention. The second is that the "rush to invent" tendency is moderated by reducing the capturable value of the invention itself.

There is still another motivation that may lead to excessive devotion of resources to invention. Ideas of course vary enormously in their significance, and some among them will have far-reaching consequences. This opens up a new channel of reward for inventors. Instead of, or possibly in addition to, selling the information via patent license or otherwise, an inventor might be able to *speculate* by taking long or short positions in assets whose values will be affected by the invention [58, Hirshleifer, 1971]. An oil firm that has developed a new method of deep recovery might, for example, reap a speculative payoff by buying up options on tracts whose petroleum now lies too deep to be recovered. One important implication of the speculative reward of invention is that it motivates the possessor of information to disseminate it widely and even gratuitously—after having made his speculative commitment.

Looking at this more generally, individual ideas will—unlike individual fish, or whole boatloads of fish—often have important *pecuniary* externalities. The "ideal conditions" referred to above, which would have reserved for the inventor the entirety of the technological benefit flowing from his idea, would then generally lead to *overcompensation* if the inventor could also capture some fraction of the pecuniary externalities as well.

There are classes of research activity for which the reward element stemming from the technological benefit is negligible, where the potential pecuniary return is almost the whole picture. Stockmarket research ("security analysis"), whether engaged in by full-time professionals or by ordinary investors, is essentially of this nature [36, Fama and Laffer, 1971]. While there may be a technological benefit (improvement in society's productive opportunities) due to accurate security analysis, the reward reaped by security *analysts* stems almost entirely from the pecuniary revaluations—the correctly interpreted rises or falls in the stock prices themselves.

Recognition of the "rush to invent" problem, while undermining the traditional argument for patents (or other forms of protection for discoverers of ideas) that was based upon a presumption

of *underinvestment* in research, does not warrant going to the other extreme. It would not be in order to conclude that patent protection is *not* justified, but only that the arguments pro and con are more complex than had previously been realized.

2.4 *Informational Advantage and Market Revelation of Information*

In the preceding sections we have considered situations in which an individual could profit by timely publication of knowledge in his private possession. For example, an agent obtaining new information might transact at existing prices (take a speculative position), planning to sell out at the revised prices that ensue once he publicly discloses his knowledge. But there are two problems here. First, the agent must be able to move to a trading position (make a speculative commitment) without thereby revealing his secret—this is the problem of *information leakage.* Second, at the disclosure stage he must be able to authenticate the information he is trying to publicize—that is the problem of *signalling.* We shall consider these two problems, in reverse order, in the sections following.

2.4.1 *Signalling.* The particular signalling problem that has aroused greatest interest arises when sellers of a higher-quality product or service are attempting to convey that message (that their product *is* high-quality) to buyers. Of course, any seller is motivated to *claim* that his is a high-quality product. Signalling as a solution to this difficulty takes place when sellers of truly higher-quality products engage in some activity *that would not be rational for those selling lower-quality products.* Any activity is a potential signal if sellers of higher-quality products can engage in it at lower marginal cost (or higher marginal return) than producers of lower-quality products. For example, it has been argued [101, Phillip Nelson, 1974; 102, 1975] that advertising tends to be especially advantageous for producers of higher-quality goods, in contexts where *repeat purchases* are a significant consideration. Since the high-quality firm will be acquiring a pool of satisfied customers, its marginal advertising cost per unit of sales will be lower. Even if there is zero information content in the advertising itself, a message is thus being conveyed: *that the product is worth promoting.*

For the labor market Spence [134, 1974], Stiglitz [138, 1975], and John G. Riley [114, 1976; 116, 1979] have argued that educational credentials constitute signals with regard to jobs in which productivity is difficult to determine. As long as there is a negative correlation between productivity and the (money and time) costs involved in achieving any education level, *the marginal cost of education is lower for the higher-quality workers.* The latter are then able to signal by attaining higher educational credentials. On the other side of the market, the process complementary to signalling is called *screening*; employers are able to use education signals to *screen* for quality differentials.

Rothschild and Stiglitz [120, 1976] and Charles A. Wilson [144, 1977] make parallel arguments for the insurance market. Section 1.2.2 above illustrated how, in the absence of ability to distinguish between better and poorer risks, insurance premiums reflect the average risk quality. Hence *adverse selection* occurs, with lower-quality risk classes tending to insure more than others. However, the higher the probability of loss, the higher is the marginal loss in utility associated with accepting less than full coverage. Thus, the marginal cost of accepting a large "deductible" is greater for low-quality risks (those with high loss probabilities). In effect, then, high-quality risks can signal by willingness to accept a big deductible. Insurance companies can thus screen for dif-

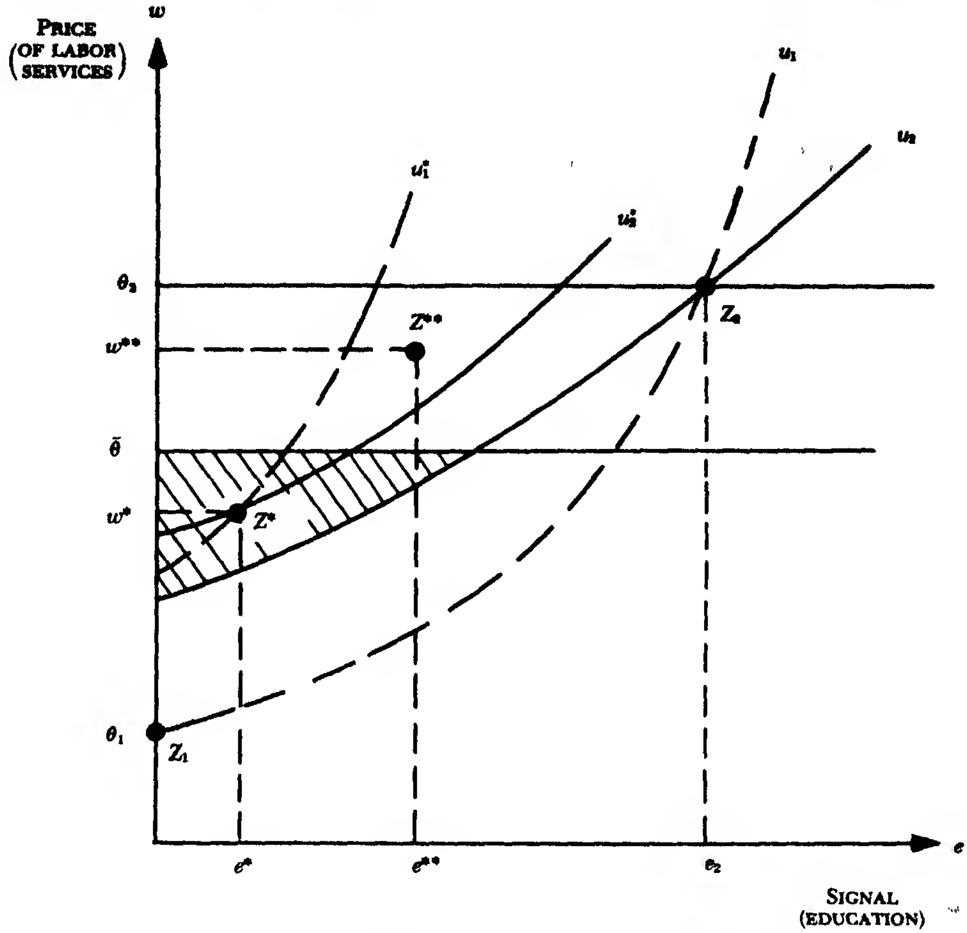

Figure 8. REACTIVE SIGNALLING EQUILIBRIUM

ferences in risk: policies with large deductibles can be offered at the low premiums appropriate for high-quality risks, while others with smaller deductibles but steeper premiums will be appropriate for and purchased by low-quality risks.

In contrast to the autonomously emergent information situations examined in Section 2.2, in signalling models the flow of information from seller to buyer is generated endogenously. This has important consequences for the stability of informational equilibria. It has been established that unless the gap between the quality of different products is sufficiently large, there is no Cournot-Nash equilibrium [120, Rothschild and Stiglitz, 1976; 113, Riley, 1975; 115, 1979]. That is, starting from a situation in which all traders adopt some complementary signalling/screening pattern, there is always an alternative that yields someone greater profit.

Figure 8 illustrates this for the simple case in which there are only two quality levels of the item for sale (insurance risk, consumer good, labor service, *etc.*) For concreteness we shall use the labor mar-

ket interpretation. The dashed indifference curves $u_1(e,w)$ represent, for a low-quality (low marginal productivity) worker, equivalent combinations of the price of his labor services (lifetime earnings) w and the level e of signalling activity (education). For a high-quality worker the solid indifference curves $u_2(e,w)$ will be applicable. The lesser slope of the latter indicates the condition for signalling to come about: that a more qualified worker can more easily or cheaply acquire the educational attainment that serves as signal. Put the other way, for any offer profile of lifetime earnings as related to educational credentials e, the higher-quality worker would be willing to acquire more e.

It is supposed here that, with full information, buyers (employers) would be willing to pay the marginal products θ_1 for the low-quality worker and θ_2 for the high-quality worker. If only average quality were known, however, their maximum offer is $\bar{\theta}$. Suppose that initially all workers are offered the same signal-wage pair $Z^* = \langle e^*,w^*\rangle$ as depicted in Figure 8, where w^* is no greater than $\bar{\theta}$.

The low-quality workers would then be on their indifference curve u_1^*, and the high-quality workers on u_2^*. Some firm would then be motivated to make the new offer Z^{**}. For, this would attract only the high-quality workers and, since $w^{**} < \theta_2$, such an offer would generate a positive profit. This proves that the position Z^*, pooling the different quality levels, is not a Cournot-Nash equilibrium.

Alternatively, suppose the two classes of workers are successfully separated with the pair of offers $Z_1 = \langle 0,\theta_1\rangle$ and $Z_2 = \langle e^{**},\theta_2\rangle$ depicted in Figure 8. Acting as price-takers, the lower-quality workers will accept the offer Z_1 and the higher-quality workers the offer Z_2. On the other side of the market the buyers, also acting as price-takers, find that the products purchased have the anticipated characteristics. The pair of offers $\{Z_1,Z_2\}$ is thus an equilibrium in the Walrasian sense (and in the sense of Spence [134, 1974]). It is also efficient in the sense that all other pairs of offers (more generally all other wage schedules) that yield zero profit and that separate workers provide lower utility to the high-quality workers.

However, this equilibrium does not have the Cournot-Nash stability property either. A firm can now enter offering the signal-wage pair Z^*, which is strictly preferred by both classes of workers and yields an expected profit to the entering firm. As we have already seen that an offer like Z^* is not itself an equilibrium, there is no Cournot-Nash equilibrium.

How then would such a market behave? Plausibly, in the absence of collusion, each buyer would eventually expect some *reaction* by other agents to changes in his own list of offers. Suppose that a new offer would be profitable in the absence of any reaction, but leads to loss once another buyer reacts with a strictly profitable counteroffer. Suppose furthermore that the latter's response is riskless, in the sense that *further* response by any other buyers would not impose losses on the first reactor. Then it seems reasonable that the potential initial "defector" would eventually recognize that his new offer would bring on such a reaction, and hence would be deterred from making it. This suggests the following strategic equilibrium concept [115, Riley, 1979], which builds on the development by Charles A. Wilson [144, 1977].

REACTIVE EQUILIBRIUM: *A set of offers is a reactive equilibrium if, for any additional offer that yields an expected gain to the agent making the offer, there is another that yields a gain to a second agent and losses to the first. Moreover, no further addition to or withdrawal from the set of offers generates losses to the second agent.*

The general derivation of the existence and uniqueness of the reactive equilib-

rium is somewhat delicate. However, it is relatively easy to check that, in Figure 8, $\{Z_1,Z_2\}$ is a reactive equilibrium. The initial "defector" must make an offer like Z^* to generate an expected profit. But then another buyer can counter with Z^{**}, thereby attracting away some high-quality workers. As this process continues, $\bar{\theta}$ will fall until Z^* generates losses, while Z^{**} remains strictly profitable, since $w^{**} < \theta_2$.

To conclude, the endogenous revelation of information via markets is, after all, explainable as a noncooperative equilibrium phenomenon. While in general there is no Cournot-Nash equilibrium, recognition of reasonable reactions by other agents always results in a stable equilibrium.

2.4.2 *Informational Inferences from Market Prices.* We now consider the problem of *information leakage.* In Section 2.2.2 the process of speculation was interpreted as largely due to differences of information and belief. Nevertheless, the problem of *leakage* did not arise there because no trader regarded any other individual's knowledge or beliefs as intrinsically superior to his own. Here, we will suppose instead, everyone recognizes that some traders do and others do not possess an *informational advantage.* (Though traders with an informational advantage may not be publicly identified as such.) In Section 2.4.1 above, better-informed individuals were seeking to *overcome* the informational disparity by signalling to potential trading partners. In this section, in contrast, the better-informed individuals are trying to *capitalize* on the disparity, by adopting a speculative position before their informational advantage disappears.

For concreteness, we can imagine that an information service μ is available which, at a certain price k, will (non-exclusively) provides any purchaser with conclusive information as to which state of the world will obtain. Initially, all the potential traders (speculators) may be assumed to have the same beliefs. But *anyone* can become better informed, and *everyone* knows that this is the case. The first, rather obvious point is that the speculative profit to those who become better-informed will decrease the larger the number purchasing the information. Figure 9 illustrates a 2-state situation. An individual has an endowment $E = (\omega_1,\omega_2)$ and beliefs (π_1,π_2). With initial state-claim prices (P_1,P_2), his optimal consumption point is C_0. If he purchases information at a price k (to be paid regardless of state), his endowment shifts to $E' = (\omega_1 - k, \omega_2 - k)$. He then anticipates that with probability π_1 he will learn that the true state is $s = 1$. In this case he will exchange all his state-2 claims for additional consumption in state 1 (point T_1). Similarly, with probability π_2 he anticipates learning that the true state is $s = 2$, in which case he sells all his state-1 claims (point T_2). The final consumption vector C_μ yields him an expected utility gain of $u_\mu - u_0$.

But, of course, the higher expected utility associated with the information service μ attracts other individuals. If the message is that the true state is $s = 1$, *all* the informed individuals will be in the market purchasing state-1 claims. This pushes up the relative price of these claims (steeper dashed budget line through E'). Similarly if the true state is $s = 2$ the price of state-2 claims is bid up (flatter dashed budget line). Final consumption is thus lower in each state, reducing the expected utility of informed agents from u_μ to u'_μ. As there is still a gain over u_0, purchase of information continues—until the utility gain due to informed trading is exactly offset by the cost k of obtaining and processing the information.

So far, it looks as if there may be an equilibrium in terms of a fraction of traders that choose to become informed. But there is a further complication. Should the true state be $s = 1$, as long as any traders at all are buying the information, the price of state-1 claims will tend to rise in com-

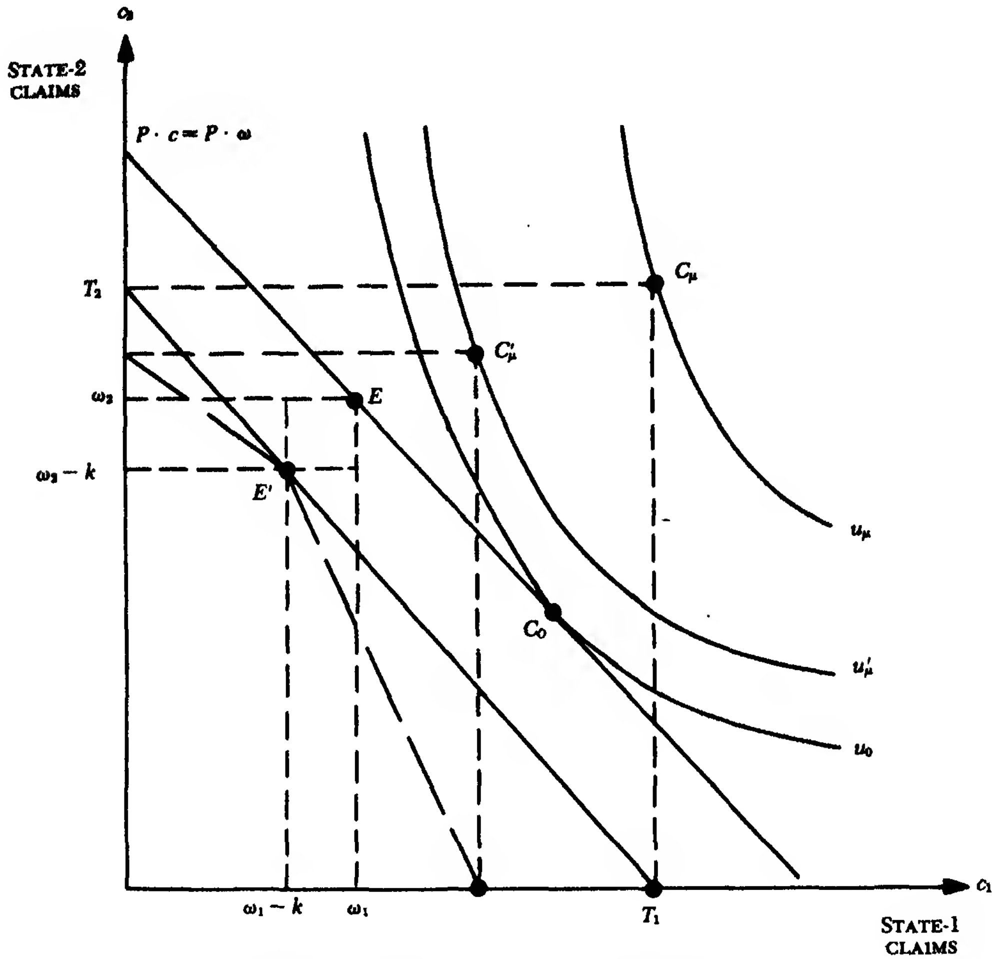

Figure 9. TRADING BY INFORMED AGENTS

parison with the initial uninformed situation—and, of course, the reverse if $s = 2$ is going to obtain. So individuals not purchasing the information can *infer* it, simply by observing the movement of market prices! [44, Green, 1973; 45, 1977; 48, Sanford J. Grossman and Stiglitz, 1976]. They will therefore speculate in the same direction as those who have paid to become informed. With sufficiently hair-trigger reaction functions on the part of the uninformed, there will not even be a gross profit to those choosing to buy the information—so that, on net, these latter must lose.

In general, of course, prices may depend upon a great number of unknown or partially known determinants or parameters, apart from the uncertain element here that defines the state (*e.g.*, the weather). But the same general result will continue to hold, so long as the price vector $p(I)$, which would prevail if *all* agents had all the available information I, differs for each different I. Then the function $p(I)$ is invertible, and $I = f^{-1}(p)$. That is, the

information can be computed from the prices; or, the price vector p is a sufficient statistic for I [71, Richard E. Kihlstrom and Leonard J. Mirman, 1975; 47, Grossman, 1977]. With a finite number of states, it is almost certainly the case that even in very incomplete markets the function $p(I)$ is invertible [109, Radner, 1979]. Thus there is almost certainly a "fulfilled-expectations" equilibrium in which each agent correctly infers aggregate information from the price vector p. (As in Section 2.2, however, this conclusion relies on a rather extreme "correct conditional price forecasting" assumption, in which each trader is able to *compute* the equilibrium price vector associated with each state of the world.)

As in the case of the signalling models considered above, there is a market externality here that tends to break down any equilibrium in which information is obtained only at a cost. If none are informed, there is potential profit in becoming informed; yet if anyone invests in information and trades accordingly, he loses relative to those who have invested. The analog of the "reactive equilibrium" concept here would evidently be the corner solution with no informational investments. However, in contrast with the signalling case, an interior solution can be obtained by introducing noise or lags. If only imperfect information about the state of nature can be inferred by observing prices (as will generally be the case with a continuum of states [47, Grossman, 1977; 69, James S. Jordan, 1976]), or if the informed individual can make his commitments before the uninformed can fully react, there will tend to be an equilibrium *fraction* of traders who choose to become informed.

2.5 *Rational Expectations and Informational Efficiency*

There is much confusion about both the logical meaning and the descriptive realism of the interrelated concepts of "rational expectations" and "informational efficiency."

The original idea of rational expectations is that anticipations "are essentially the same as the predictions of the relevant economic theory" [100, John F. Muth, 1961, p. 316]. This can be visualized in a very simple temporal model without *exogenous* uncertainty—that is, a world where present and future endowed supplies, productive opportunities, utility functions, *etc.*, are all perfectly-known and determinate. In such a world there would, in general, be trading at different dates. And since the relative supply-demand situations for the various goods may change as the economy moves on its world-line, there is no reason to expect the *spot* price ratios to remain constant over time.

Suppose that, despite universal knowledge of the exogenous data, traders have divergent beliefs about the implied solution values for *endogenous* variables—in particular, about future spot prices. This possibility is of interest in connection with the problem of incompleteness of market regimes discussed in Section 2.2.1 above. For concreteness, think of a two-period world. *Complete* markets at the current date (the analog of *Complete Conditional* Markets as discussed earlier, but in the absence of exogenous uncertainty there is only one state) would provide for trading in the $2G$ claims c_{tg} at prices P^0_{tg}—where the first subscript represents the effective date of the claim ($t = 0,1$) and the second designates the good ($g = 1, \ldots, G$), while the superscript indicates the *trading date*. In an *incomplete* market regime with *no* futures markets, the future-dated claims c_{1g} would not be tradable at $t = 0$, so that the prices P^0_{1g} would not exist. (In either case, however, there could be later spot trading at $t = 1$, at prices P^1_{1g}.)

In either market regime, individuals' trading decisions today will depend upon

their anticipations as to the later spot prices P^1_{ig}, since there will in general be both productive interdependencies (*e.g.*, storage possibilities) and utility complementarities between the two dates. And, in consequence, the equilibrium prices in today's and tomorrow's markets will generally both depend upon the anticipations that the individuals hold today. But, following a familiar theme of the previous discussion, a *complete* regime at $t = 0$ makes "correct price forecasting" for $t = 1$ easy: "no change" will be the correct prediction. That is, if all traders forecast that the *later spot* price ratios will equal the *current futures* price ratios—$P^0_{1g'}/P^0_{1g''} = P^1_{1g'}/P^1_{1g''}$—and make their current trading decisions accordingly, their anticipations will be borne out.

It is thus the absence of futures markets that creates the forecasting problem envisaged by the rational expectations literature [9, Arrow, 1978]. We have seen that, strictly speaking, with incomplete markets today individuals cannot compute (from information privately available to them) tomorrow's spot prices necessary to guide today's productive and consumptive decisions. The model of rational expectations nevertheless assumes that, at least on average, they *can* do so. Each person in effect makes a guess on the basis of his private bit of information (as well as his general knowledge of relationships such as the law of supply and demand), and the errors of the various independent guesses balance out in the aggregate:

> . . . allowing for cross-sectional differences in expectations is a simple matter, because their aggregate effect is negligible as long as the deviation from the rational forecast . . . is not strongly correlated with those of the others. [Muth, 1961, p. 321.]

The central idea of rational expectations can of course be applied more generally than in our bare-bones illustrative example: there can be more than two dates, not *all* futures markets need be lacking, individuals can have subjective probability distributions rather than simple point estimates for the unknown future spot prices, and finally some agreed patterns of exogenous uncertainty might be introduced—as in a random shift factor for future supply and/or demand. These generalizations lead to complications that cannot be pursued here. But even in the simplest version the assumption remains a strong one, whose virtue is in enabling us to close our intertemporal models and force out solutions. We shall not attempt to comment here on the descriptive validity of these models; just how validity might be tested is not at all evident and has been the subject of controversy. One interesting point brought out by Arrow [9, 1978] is that the rational-expectations assumption in effect stands on its head the famous argument by Friedrich A. Hayek [53, 1945] about the informational function of the market system. Hayek's view was that market prices convey to traders all they need to know about the vastly detailed particular circumstances of other economic agents. Without a price system, a central planner would require an impossibly elaborate data-gathering and data-analyzing scheme to reproduce its results. But rational expectations implies that the price signals from the missing markets are not needed after all; traders can, at least on average, reproduce the missing signals on their own!

In these microeconomic applications, rational expectations essentially means correct prediction of the prices that will reign given different objective exogenous contingencies—what we have called "correct conditional price forecasting." No restrictions are placed upon subjective beliefs as to the probabilities of the different states. In contrast, a central feature of *macro*economic applications [77, Robert E. Lucas, Jr., 1972; 125, Thomas J. Sargent and Neil Wallace, 1975] has been that in-

dividuals are not only superior econometricians but clairvoyant about events as well. Frank H. Knight seems to have anticipated this view: "We are so built that what seems to us reasonable is likely to be confirmed by experience, or we could not live in the world at all" [72, 1921, p. 227]. In the present context, it is supposed that in addition to being able to analyze the macroeconomic effects of any given monetary policy, individuals can also decipher the actual monetary rule being followed.

This Lincolnesque idea that "the people can't be fooled" may be based upon viewing the underlying world process as stochastically stationary, so that individuals can gradually learn both about the effects of events upon prices and about the probability distribution of events. However, this learning evolution does not imply that beliefs would be on average correct except in the limit.

Prices in an economy will be related to the knowledge and beliefs of all participating traders—possibly weighted by endowed wealths, degree of risk-aversion, *etc.* Under the heading of *informational efficiency,* the issue has been raised as to whether prices "fully reflect" people's current information [35, Fama, 1970].

Unfortunately, the meaning of the term "fully reflect" has proved elusive. Mark E. Rubinstein has proposed that information be said to be already reflected in prices if, upon arrival of the message, traders have no incentive to revise portfolios [121, 1975]. On this definition, he shows that prices can almost never "fully reflect information." As follows from our Section 2.2 above, there are two main reasons: (1) even with agreed beliefs, incomplete regimes of *prior* markets generally make posterior trading (portfolio revision) unavoidable, and (2) with diverging beliefs and consequent speculative prior trading, it will be necessary to close out speculative positions in the posterior round.

The most widely held interpretation—what has been called the "weak form" of the proposition—is that markets are "informationally efficient" if, as a pragmatic matter, there is no way to make a profit (more precisely, to achieve an expected utility gain) from information already in the public domain. In particular, there is no way to outsmart the stockmarket by detecting patterns of price movement in the historic record.

This interpretation in effect asserts that, at least on average, individuals can *process* available information correctly. (While costs of processing may prevent perfect adjustment, errors tend to cancel out.) More specifically, this has been taken to imply that prices should follow a *martingale* process. That is, except perhaps for time and risk adjustment factors, the price today should be the mathematical expectation of the price tomorrow [123, Paul A. Samuelson, 1965]. However, it has been shown that even supposing known or agreed probabilities (without which it would be impossible to calculate mathematical expectations), only under very special conditions does a martingale in prices result [145, Susan E. Woodward, 1979]. First of all, prices are *ratios*; if a given ratio followed the martingale property, in general its reciprocal (the ratio taken the other way) would not. And even if expressed in terms of some standard numeraire commodity, prices would not follow a martingale unless there were no utility complementarities between the numeraire and other goods [122, Salant, 1976]. It has also sometimes been argued that failure of prices to follow a martingale would by definition create an arbitrage-like profit opportunity in the sense of a positive expectation of gain from holding an asset, over and above the normal interest yield. But, as we have seen from our early discussion of "private and social risk" in Section 1.2, a higher *mathematical expectation* of income does not in general

represent higher *expected utility,* so this argument is erroneous.

The "strong form" of the efficient market hypothesis has been taken to mean that even *private* information cannot be profitably used (compare our discussion of "information leakage" in Section 2.4.2 above). This form of the hypothesis does not seem consistent with the evidence—for example, of gains from insider trading (surveyed in Thomas E. Copeland and J. Fred Weston [27, 1979, chap. 9]). As for the "weak form," numerous econometric studies have concluded that it is not possible to reject the hypothesis that price changes are independent of past prices. However, there does not yet seem to be a sufficiently well-specified model to allow testing the hypothesis that price changes are independent of *all* public information (but see Stephen Figlewski [39a, 1979]).

Informational activities, finally, have an unusual relation to economic equilibrium. Information generation is in large part a disequilibrium-creating process [129, Joseph A. Schumpeter, (1911) 1936], and information dissemination a disequilibrium-repairing process. The two are intertwined, as we have seen, in very complex ways. It does not yet seem that we are very close to having an efficiency concept that can usefully be employed to measure the dynamically optimal level of such activities.

References

1. AKERLOF, GEORGE A. "The Market for 'Lemons': Qualitative Uncertainty and the Market Mechanism," *Quart. J. Econ.*, August 1970, *84*(3), pp. 488–500.
2. ALCHIAN, ARMEN A. "The Meaning of Utility Measurement," *Amer. Econ. Rev.*, March 1953, *43*, pp. 26–50.
3. ——— AND DEMSETZ, HAROLD. "Production, Information Costs, and Economic Organization," *Amer. Econ. Rev.*, Dec. 1972, *62*(5), pp. 777–95.
4. ARROW, KENNETH J. "Le Rôle des Valeurs Boursières pour la Répartition la Meilleure des Risques," in *International Colloquium on Econometrics, 1952.* Paris: Centre National de la Recherche Scientifique, 1953.
5. ———. "Economic Welfare and the Allocation of Resources for Invention," in *The rate and direction of inventive activity: Economic and social factors.* Universities–NBER Conference Series. Princeton, N.J.: Princeton University Press, 1962, pp. 609–25.
6. ———. "Uncertainty and the Welfare Economics of Medical Care," *Amer. Econ. Rev.*, Dec. 1963, *53*, pp. 941–73.
7. ———. "The Role of Securities in the Optimal Allocation of Risk-Bearing," *Rev. Econ. Stud.*, April 1964, *31*, pp. 91–96.
8. ———. "*Aspects of the Theory of Risk-Bearing.* Helsinki: Yrjö Jahnssonin Säätio, 1965.
9. ———. "The Future and the Present in Economic Life," *Econ. Inq.*, April 1978, *16*(2), pp. 157–69.
10. ——— AND FISHER, ANTHONY C. "Environmental Preservation, Uncertainty and Irreversibility," *Quart. J. Econ.*, May 1974, *88*(2), pp. 312–19.
11. ——— AND LIND, ROBERT C. "Uncertainty and the Evaluation of Public Investment," *Amer. Econ. Rev.*, June 1970, *60*(3), pp. 364–78.
12. BAILEY, MARTIN J. AND JENSEN, MICHAEL C. "Risk and the Discount Rate for Public Investment," in *Studies in the theory of capital markets.* Edited by MICHAEL C. JENSEN. New York: Praeger, 1972, pp. 269–93.
13. BARZEL, YORAM. "Optimal Timing

of Innovations," *Rev. Econ. Statist.*, August 1968, *50*, pp. 348–55.

14. BAUMOL, WILLIAM. "The Neumann–Morgenstern Utility Index: An Ordinalist View," *J. Polit. Econ.*, Feb. 1951, *59*, pp. 61–66.
15. ———. "On Taxation and the Control of Externalities," *Amer. Econ. Rev.*, June 1972, *62*(3), pp. 307–22.
16. BERGSTROM, THEODORE. "Preference and Choice in Matters of Life and Death," Appendix 1 of *Applying cost-benefit concepts to projects which alter human mortality.* By JACK HIRSHLEIFER, THEODORE BERGSTROM, AND EDWARD RAPPAPORT. UCLA School of Engineering and Applied Science, ENG-7478, Nov. 1974.
17. BORCH, KARL. "Indifference Curves and Uncertainty," *Swed. J. Econ.*, March 1968, *70*, pp. 19–24.
18. BRAINARD, WILLIAM C. AND DOLBEAR, F. TRENERY JR. "Social Risk and Financial Markets," *Amer. Econ. Rev.*, May 1971, *61*(2), pp. 360–70.
19. CALABRESI, GUIDO. *The costs of accidents: A legal and economic analysis.* New Haven: Yale University Press, 1970.
20. CHEUNG, STEVEN N. S. *The theory of share tenancy: With special application to Asian agriculture and the first phase of Taiwan land reform.* Chicago: University of Chicago Press, 1969.
21. ———. "Transaction Costs, Risk Aversion, and the Choice of Contractual Arrangements," *J. Law, Econ.*, April 1969, *12*(1), pp. 23–42.
22. ———. "Property Rights and Inventions," University of Washington Institute of Economic Research, Report No. 79–11, 1979.
23. ———. "The Right To Invent and the Right To an Invention," University of Washington Institute of Economic Research, Report No. 79–13, 1979.
24. CONLEY, BRYAN C. "The Value of Human Life in the Demand for Safety," *Amer. Econ. Rev.*, March 1976, *66*(1), pp. 45–55.
25. COOK, PHILIP J. AND GRAHAM, DANIEL A. "The Demand for Insurance and Protection: The Case of Irreplaceable Commodities," *Quart. J. Econ.*, Feb. 1977, *91*(1), pp. 143–56.
26. COOTNER, PAUL H. "Speculation, Hedging and Arbitrage," in *International Encyclopedia of the Social Sciences.* Vol. 15. New York: Macmillan, Free Press, 1968, pp. 117–21.
27. COPELAND, THOMAS E. AND WESTON, J. FRED. *Financial theory and corporate policy.* Reading, Mass.: Addison-Wesley, 1979.
28. DEANGELO, HARRY. *Three essays in financial economics.* UCLA Ph.D. dissertation, 1979.
29. DEBREU, GERARD. *Theory of value: An axiomatic analysis of economic equilibrium.* New York: Wiley, 1959.
30. DIAMOND, PETER A. "The Role of a Stock Market in a General Equilibrium Model with Technological Uncertainty," *Amer. Econ. Rev.*, Sept. 1967, *57*, pp. 759–76.
31. ———. "Accident Law and Resource Allocation," *Bell J. Econ.*, Autumn 1974, *5*(12), pp. 366–405.
32. DRÈZE, JACQUES H. "Market Allocation Under Uncertainty," *Eur. Econ. Rev.*, Winter 1970–71, *2*(2), pp. 133–65.
33. EHRLICH, ISAAC AND BECKER, GARY S. "Market Insurance, Self-Insurance, and Self-Protection," *J. Polit. Econ.*, July/August 1972, *80*(4), pp. 623–48.
34. EKERN, STEINAR AND WILSON, ROBERT. "On the Theory of the Firm in an Economy with Incomplete

Markets," *Bell J. Econ*, Spring 1974, *5*(1), pp. 171–80.

35. FAMA, EUGENE F. "Efficient Capital Markets: A Review of Theory and Empirical Work," *J. Finance*, May 1970, *25*(2), pp. 383–417.

36. ——— AND LAFFER, ARTHUR B. "Information and Capital Markets," *J. Bus.*, July 1971, *44*(3), pp. 289–98.

37. ——— AND MILLER, MERTON H. *The theory of finance*. New York: Holt, Rinehart & Winston, 1972.

38. FEIGER, GEORGE. "What Is Speculation?" *Quart. J. Econ.*, Nov. 1976, *90*(4), pp. 677–88.

39. FELDSTEIN, MARTIN S. "Mean-Variance Analysis in the Theory of Liquidity Preference and Portfolio Selection," *Rev. Econ. Stud.*, Jan. 1969, *36*(105), pp. 5–12.

39a. FIGLEWSKI, STEPHEN. "Subjective Information and Market Efficiency in a Betting Market," *J. Polit. Econ.*, Feb. 1979, *87*(1), pp. 75–88.

40. FISHER, IRVING. *The nature of capital and income*. New York: Macmillan, 1912.

41. ———. *The theory of interest*. New York: Macmillan, 1930.

42. FRIEDMAN, MILTON AND SAVAGE, LEONARD J. "The Utility Analysis of Choices Involving Risks," *J. Polit. Econ.*, August 1948, *56*, pp. 279–304.

43. GORDON, H. SCOTT. "The Economic Theory of a Common Property Resource: The Fishery," *J. Polit. Econ.*, April 1954, *62*, pp. 124–42.

44. GREEN, JERRY. *Information, efficiency and equilibrium*. Harvard Institute of Economic Research, Discussion Paper no. 284, March 1973.

45. ———. "The Non-existence of Informational Equilibria," *Rev. Econ. Stud.*, Oct. 1977, *44*(3), pp. 451–63.

46. ———. "Statistical Decision Theory Requiring Incentives for Information Transfer," in *The economics of information and uncertainty*. Edited by JOHN J. MCCALL. Universities–NBER Conference Series. Chicago, forthcoming.

47. GROSSMAN, SANFORD J. "The Existence of Futures Markets, Noisy Rational Expectations and Informational Externalities," *Rev. Econ. Stud.*, Oct. 1977, *44*(3), pp. 431–49.

48. ——— AND STIGLITZ, JOSEPH E. "Information and Competitive Price Systems," *Amer. Econ. Rev.*, May 1976, *66*(2), pp. 246–53.

49. GROVES, THEODORE. "Incentives in Teams," *Econometrica*, July 1973, *41*(4), pp. 617–31.

50. HAKANSSON, NILS H.; KUNKEL, J. GREGORY AND OHLSON, JAMES A. "Sufficient and Necessary Conditions for Information to Have Social Value in Pure Exchange," School of Business Administration, University of California, Berkeley, June 1979.

51. HARRIS, MILTON AND RAVIV, ARTUR. "Some Results on Incentive Contracts With Applications to Education and Employment, Health Insurance, and Law Enforcement," *Amer. Econ. Rev.*, March 1978, *68*(1), pp. 20–30.

52. HART, OLIVER D. "On the Optimality of Equilibrium when the Market Structure Is Incomplete," *J. Econ. Theory*, Dec. 1975, *11*(3), pp. 418–43.

53. HAYEK, FRIEDRICH A. "The Use of Knowledge in Society," *Amer. Econ. Rev.*, Sept. 1945, *35*, pp. 519–30.

54. HENRY, CLAUDE. "Investment Decisions under Uncertainty: The 'Irreversibility Effect'," *Amer. Econ. Rev.*, Dec. 1974, *64*(6), pp. 1006–12.

55. HICKS, JOHN. *Value and capital*. Second edition. Oxford: Oxford University Press, Clarendon Press, 1946.

56. HIRSHLEIFER, JACK. "Investment Decision under Uncertainty: Applications of the State-Preference Ap-

proach," *Quart. J. Econ.*, May 1966, *80*, pp. 252–77.

57. ——. *Investment, interest, and capital*, Englewood Cliffs, N.J.: Prentice-Hall, 1970.
58. ——. "The Private and Social Value of Information and the Reward to Inventive Activity," *Amer. Econ. Rev.*, Sept. 1971, *61*(4), pp. 561–74.
59. ——. "Liquidity, Uncertainty, and the Accumulation of Information," in C. F. Carter and J. L. Ford, (eds), *Uncertainty and expectations in economics: Essays in honour of G. L. S. Shackle*. Edited by C. F. CARTER AND J. L. FORD. Oxford: Blackwell, 1972, pp. 136–47.
60. ——. "Where Are We in the Theory of Information?" *Amer. Econ. Rev.*, May 1973, *63*(2), pp. 31–39.
61. ——. "Speculation and Equilibrium: Information, Risk, and Markets," *Quart. J. Econ.*, Nov. 1975, *89*(4), pp. 519–42.
62. ——. "The Theory of Speculation Under Alternative Regimes of Markets," *J. Finance*, Sept. 1977, *32*(4), pp. 975–99.
63. HOUTHAKKER, HENDRIK S. "Can Speculators Forecast Prices?" *Rev. Econ. Statist.*, May 1957, *39*, pp. 143–51.
64. ——. "Normal Backwardation," in *Value, capital, and growth: Papers in honour of Sir John Hicks*. Edited by JAMES N. WOLFE. Edinburgh: Edinburgh University Press, 1968, pp. 193–214.
65. JENSEN, MICHAEL C. "Capital Markets: Theory and Evidence," *Bell J. Econ.*, Autumn 1972, *3*(2), pp. 357–98.
66. —— AND MECKLING, WILLIAM H. "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *J. Finan. Econ.*, Oct. 1976, *3*(4), pp. 305–60.
67. JONES, ROBERT A. AND OSTROY, JOSEPH. "Uncertainty and Flexibility," UCLA Discussion Paper no. 73, July, 1976.
68. JONES-LEE, MICHAEL W. *The value of life: An economic analysis*. Chicago: University of Chicago Press, 1976.
69. JORDAN, JAMES S. *Expectations equilibrium and informational efficiency for stochastic environments*. University of Minnesota, Center for Economic Research, Discussion Paper no. 71, August 1976.
70. KEYNES, JOHN MAYNARD. *A treatise on money*. New York: Harcourt Brace, 1930.
71. KIHLSTROM, RICHARD E. AND MIRMAN, LEONARD J. "Information and Market Equilibrium," *Bell J. Econ.*, Spring 1975, *6*(1), pp. 357–76.
72. KNIGHT, FRANK H. *Risk, uncertainty and profit*. New York: Houghton Mifflin, 1921.
73. LINNEROOTH, JOANNE, "The Value of Human Life: A Review of the Models," *Econ. Inq.*, Jan. 1979, *17*(1), pp. 52–74.
74. LINTNER, JOHN. "Dividends, Earnings, Leverage, Stock Prices and the Supply of Capital to Corporations," *Rev. Econ. Statist.* August 1962, *44*, pp. 243–69.
75. ——. "The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets," *Rev. Econ. Statist.*, Feb. 1965, *47*, pp. 13–37.
76. LIPPMAN, STEVEN A. AND MCCALL, JOHN J. "The Economics of Job Search: A Survey," *Econ. Inq.*, June 1976, *14*(2), pp. 155–89.
77. LUCAS, ROBERT E., JR. "Expectations and the Neutrality of Money," *J. Econ. Theory*, April 1972, *4*(2), pp. 103–24.
78. LUCE, R. DUNCAN AND RAIFFA, HOWARD. *Games and decisions: In-*

troduction and critical survey. New York: Wiley, 1957.

79. MACHLUP, FRITZ. *The production and distribution of knowledge in the United States.* Princeton, N.J.: Princeton University Press, 1962.
80. ———. "Patents," *International Encyclopedia of the Social Sciences.* Vol. 11. New York: Macmillan, Free Press, 1968, pp. 461–72.
81. ———. "The Economics of Knowledge and Information," *Part Seven of Knowledge: Its creation, distribution, and economic significance.* Unpublished manuscript, 1979.
82. MARKOWITZ, HARRY M. "The Utility of Wealth," *J. Polit. Econ.*, April 1952, *60*, pp. 151–58.
83. ———. *Portfolio selection: Efficient diversification of investments.* Cowles Foundation for Research in Economics, Yale University, Monograph 16. New York: Wiley, 1959.
84. MARSCHAK, JACOB. "Role of Liquidity under Complete and Incomplete Information," *Amer. Econ. Rev.*, May 1949, *39*, pp. 182–95.
85. ———. "Decision-Making: Economic Aspects," *International Encyclopedia of the Social Sciences.* Vol. 4. New York: Macmillan, Free Press, 1968, pp. 42–55.
86. ———. "Economics of Information Systems," in *Frontiers of quantitative economics.* Edited by MICHAEL D. INTRILIGATOR. Amsterdam: North-Holland, 1971, pp. 32–107.
87. ——— AND MIYASAWA, KOICHI. "Economic Comparability of Information Systems," *Int. Econ. Rev.*, June 1968, *9*, pp. 137–74.
88. ——— AND RADNER, ROY. *The economic theory of teams.* Cowles Foundation for Research in Economics, monograph no. 22. New Haven: Yale University Press, 1972.
89. MARSCHAK, THOMAS AND NELSON, RICHARD. "Flexibility, Uncertainty, and Economic Theory," *Metroeconomica*, April–Dec. 1962, *14*, pp. 42–58.
90. MARSHALL, JOHN M. "Private Incentives and Public Information," *Amer. Econ. Rev.*, June 1974, *64*(3), pp. 373–90.
91. ———. "Insurance Theory: Reserves versus Mutuality," *Econ. Inquiry*, Dec. 1974, *12*(4), pp. 476–92.
92. ———. "Moral Hazard," *Amer. Econ. Rev.*, Dec. 1976, *66*(5), pp. 880–90.
93. MAYSHAR, JORAM. "Should Government Subsidize Risky Private Projects?" *Amer. Econ. Rev.*, March 1977, *67*(2), pp. 20–28.
94. MCCALL, JOHN J. "The Economics of Information and Optimal Stopping Rules," *J. Bus.*, July 1965, *38*, pp. 300–317.
95. MCKINNON, RONALD I. "Futures Markets, Buffer Stocks, and Income Stability for Primary Producers," *J. Polit. Econ.*, Dec. 1967, *75*, pp. 844–61.
96. MERTON, ROBERT C. "Investment Theory," in *Handbook of mathematical economics.* Edited by K. J. ARROW AND M. D. INTRILIGATOR. Amsterdam: North-Holland, forthcoming, 1980.
97. MISHAN, EZRA J. "Evaluation of Life and Limb," *J. Polit. Econ.*, July/August 1971, *79*(4), pp. 687–705.
98. MODIGLIANI, FRANCO AND MILLER, MERTON H. "The Cost of Capital, Corporation Finance and the Theory of Investment," *Amer. Econ. Rev.*, June 1958, *48*, pp. 261–97.
99. MOSSIN, JAN. "Equilibrium in a Capital Asset Market," *Econometrica*, Oct. 1966, *34*, pp. 768–83.
100. MUTH, JOHN F. "Rational Expectations and the Theory of Price Movements," *Econometrica*, July 1961, *29*, pp. 315–35.
101. NELSON, PHILLIP. "Advertising as

Information," *J. Polit. Econ.*, July/August 1974, *82*(4), pp. 729–54.

102. ———. "The Economic Consequences of Advertising," *J. Bus.*, April 1975, *48*(2), pp. 213–41.

103. VON NEUMANN, JOHN AND MORGENSTERN, OSKAR. *Theory of games and economic behavior.* Princeton, N.J.: Princeton University Press, 1944.

104. PAULY, MARK V. "The Economics of Moral Hazard: Comment," *Amer. Econ. Rev.*, June 1968, *58*, pp. 531–36.

105. PEARL, JUDEA. "An Economic Basis for Certain Methods of Evaluating Probabilistic Forecasts," *Int. J. Man-Machine Studies*, 1978, *10*, pp. 175–83.

106. PHELPS, EDMUND S., *et al. Microeconomic foundations of employment and inflation theory.* New York: Norton, 1970.

107. PRATT, JOHN W. "Risk Aversion in the Small and in the Large," *Econometrica*, Jan.–April 1964, *32*, pp. 122–36.

108. RADNER, ROY. "Competitive Equilibrium under Uncertainty," *Econometrica*, Jan. 1968, *36*, pp. 31–58.

109. ———. "Rational Expectations Equilibrium: Generic Existence and the Information Revealed by Prices," *Econometrica*, May 1979, *47*(3), pp. 655–78.

110. ——— AND STIGLITZ, JOSEPH E. "A Nonconcavity in the Value of Information," unpublished manuscript, July 1976.

111. RAIFFA, HOWARD. *Decision analysis: Introductory lectures on choices under uncertainty.* Reading, Mass.: Addison-Wesley, 1968.

112. REID, JOSEPH D., JR. "Sharecropping and Agricultural Uncertainty," *Econ. Develop. Cult. Change*, April 1976, *24*(3), pp. 549–76.

113. RILEY, JOHN G. "Competitive Signalling," *J. Econ. Theory*, April 1975, *10*(2), pp. 174–86.

114. ———. "Information, Screening and Human Capital," *Amer. Econ. Rev.*, May 1976, *66*(2), pp. 254–60.

115. ———. "Informational Equilibrium," *Econometrica*, March 1979, *47*(2), pp. 331–59.

116. ———. "Testing the Educational Screening Hypothesis," *J. Polit. Econ.*, Oct. 1979, *87*(5), Part 2, pp. 227–44.

117. ROTHSCHILD, MICHAEL. "Models of Market Organization With Imperfect Information: A Survey," *J. Polit. Econ.*, Nov./Dec. 1973, *81*(6), pp. 1283–1308.

118. ——— AND STIGLITZ, JOSEPH E. "Increasing Risk: I. A Definition," *J. Econ. Theory*, Sept. 1970, *2*(3), pp. 225–43.

119. ——— AND STIGLITZ, JOSEPH E. "Increasing Risk: II. Economic Consequences," *J. Econ. Theory*, March 1971, *3*(1), pp. 66–84.

120. ——— AND STIGLITZ, JOSEPH E. "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *Quart. J. Econ.*, Nov. 1976, *90*(4), pp. 629–49.

121. RUBINSTEIN, MARK E. "Securities Market Efficiency in an Arrow-Debreu Economy," *Amer. Econ. Rev.*, Dec. 1975, *65*(5), pp. 812–24.

122. SALANT, STEPHEN W. "Hirshleifer on Speculation," *Quart. J. Econ.*, Nov. 1976, *90*(4), pp. 667–76.

123. SAMUELSON, PAUL A. "Proof That Properly Anticipated Prices Fluctuate Randomly," *Indust. Mgt. Rev.*, Spring 1965, *6* (2), pp. 41–49.

124. SANDMO, AGNAR. "Discount Rates for Public Investment under Uncertainty," *Int. Econ. Rev.*, June 1972, *13*(2), pp. 287–302.

125. SARGENT, THOMAS J. AND WALLACE, NEIL. "'Rational' Expections,

the Optimal Monetary Instrument, and the Optimal Money Supply Rule," *J. Polit. Econ.*, April 1975, *83*(2), pp. 241–54.

126. SAVAGE, LEONARD J. *The foundations of statistics.* New York: Wiley, 1954.

127. SCHELLING, THOMAS C. "The Life You Save May Be Your Own," in *Problems in public expenditures analysis.* Edited by SAMUEL B. CHASE, JR. Washington, D.C.: Brookings Institution, 1968, pp. 127–62.

128. SCHLAIFER, ROBERT. *Probability and statistics for business decisions.* New York: McGraw-Hill, 1959.

129. SCHUMPETER, JOSEPH A. *The theory of economic development.* Translated from the German by REDVERS OPIE. Cambridge, Mass.: Harvard University Press, [1911] 1936.

130. SHARPE, WILLIAM F. "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk," *J. of Finance*, Sept. 1964, *19*, pp. 425–42.

131. ———. *Investments.* Englewood Cliffs, N.J.: Prentice-Hall, 1978.

132. SHAVELL, STEVEN. "On Valuable Opinion and the Efficiency of the Price System under Uncertainty," Harvard Institute of Economic Research, Discussion Paper #458, March 1976.

133. ———. "Do Managers Use Their Information Efficiently?" *Amer. Econ. Rev.*, Dec. 1978, *68*(5), pp. 935–37.

134. SPENCE, A. MICHAEL. *Market signaling: Informational transfer in hiring and related processes.* Cambridge, Mass.: Harvard University Press, 1974.

135. ——— AND ZECKHAUSER, RICHARD. "Insurance, Information, and Individual Action," *Amer. Econ. Rev.*, May 1971, *61*(2), pp. 380–87.

136. STIGLER, GEORGE J. "The Economics of Information," *J. Polit. Econ.*, June 1961, *69*, pp. 213–25.

137. ———. "Information in the Labor Market," *J. Polit. Econ.*, Oct. 1962, *70*(5), pp. 94–105.

138. STIGLITZ, JOSEPH E. "The Theory of 'Screening,' Education, and the Distribution of Income," *Amer. Econ. Rev.*, June 1975, *65*(3), pp. 283–300.

139. STROTZ, ROBERT H. "Cardinal Utility," *Amer. Econ. Rev.*, May 1953, *43*, pp. 384–97.

140. THALER, RICHARD H. AND ROSEN, SHERWIN. "The Value of Saving a Life: Evidence From the Labor Market," in *Household production and consumption: Papers.* Edited by NESTOR E. TERLECKYJ. National Bureau of Economic Research, Studies in Income and Wealth, Vol. 40. New York: NBER, 1976, pp. 265–98.

141. TOBIN, JAMES. "Liquidity Preference as Behavior Towards Risk," *Rev. Econ. Stud.*, Feb. 1958, *25*, pp. 65–86.

142. TOWNSEND, ROBERT M. "On the Optimality of Forward Markets," *Amer. Econ. Rev.*, March, 1978, *68*(1), pp. 54–66.

143. VICKREY, WILLIAM. "Automobile Accidents, Tort Law, Externalities, and Insurance: An Economist's Critique," *Law Contemp. Prob.*, Summer 1968, *33*(3), pp. 464–87.

144. WILSON, CHARLES A. "A Model of Insurance Markets With Incomplete Information," *J. Econ. Theory*, Dec. 1977, *16*(2), pp. 167–207.

145. WOODWARD, SUSAN E. *Two essays in the theory of competitive markets for contingent claims.* UCLA Ph.D. dissertation, 1979.

146. WORKING, HOLBROOK. "Futures Trading and Hedging," *Amer. Econ. Rev.*, June 1953, *43*, pp. 314–43.

147. ———. "New Concepts Concerning Futures Markets and Prices," *Amer.*

Econ. Rev., June 1962, *52*, pp. 431–59.

148. ZECKHAUSER, RICHARD. "Medical Insurance: A Case Study of the Tradeoff between Risk Spreading and Appropriate Incentives," *J. Econ. Theory*, March 1970, *2*(1), pp. 10–26.

149. ———. "Risk Spreading and Distribution," in *Redistribution through public choice.* Edited by HAROLD M. HOCHMAN AND GEORGE E. PETERSON. New York: Columbia University Press, 1974, pp. 206–28.

150. ZORN, THOMAS S. *Information differences, the stockmarket, and management incentives.* UCLA Ph.D. dissertation, 1978.

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Rational Expectations and Economic Thought

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WHAT IS a rational expectations view of the world? Can such a view help advance economic understanding? How should rational expectations be placed in the history of economic thought and method? The purpose of this discussion is to help provide answers to these questions.

Alan Coddington in a review of George L. S. Shackle [67, 1966] has summarized much of the objection to economic analysis in the following penetrating way [18, 1975, p. 151]:

> If we attempt to understand economic life by supposing that in it men apply reason to their circumstances, the question naturally arises: what *can* men know about their circumstances? Or even: what *do* men know about their circumstances? Having answered these questions we could then go on to ask: what happens when men apply reason to this knowledge? In fact, economic theory has not proceeded in this manner, but the other way round. Instead of asking how reason can be applied to the knowledge that men can or do have of their economic circumstances, it asks how reason can be applied to circumstances, which are perfectly known.

It will be the contention of this paper that the rational expectations approach need not and should not assume that men apply reason to "circumstances that are perfectly known." The paper will argue that to the contrary, the rational expectations approach can provide logically consistent and empirically verifiable answers to questions about what men can and do know and how they use their knowledge.

Perhaps the justification for this paper is that both critics and some practitioners of the rational expectations approach seem unaware of these implications. The paper will attempt to draw the implications partly by a history of thought discussion and partly by surveying some recent theoretical and empirical developments.

The paper begins with a very brief history of developments in monetary economics after 1945 in order to establish the background to rational expectations. The first important applications of rational expectations to macroeconomics were directed at the rationale for discretionary stabilization policy. The general form of this critique is outlined. Criticisms of Keynesian stabilization policy have emanated from other sources as well. The paper considers the criticisms of Walrasian general equilibrium analysis made by "fundamental Keynesians" in order to show why the rational expectations paradigm can be regarded as much more than a critique of Keynesian economics and in particular represents an opportunity to reconstruct equilibrium economics given uncertainty.

In demonstrating this point the paper draws on an "Austrian" theory of expectations and discusses the links between rational expectations and the efficient market hypothesis. The rational expectations approach to the business cycle and labor market analysis are also considered. A few empirical applications of the theory are examined in order to discover whether the tests conform to the spirit of rational expectations. The paper concludes with an interpretation of the debate on stabilization policy.

A Brief History

Acceptance of the Keynesian theory of less than full employment equilibrium was undermined by persistent, unexpectedly high levels of employment after 1945 and the discovery of the real balance effect. The Keynesian assumption of rigid wages was shown to be a special case of a more general theory. As Don Patinkin explained "if the terms are understood in their usual, strict sense, the coexistence of involuntary unemployment and flexible money wages precludes the existence of equilibrium. For 'flexibility' means that the money wage rate tends to fall with excess supply, and 'equilibrium' means that nothing tends to change in the system" [52, 1965, p. 315]. Patinkin believed that unemployment "was a phenomenon of economic dynamics" and that recognition of the real balance effect "freed [economics] from the necessity of static analysis to connect decreases in employment with increases in the real wage rate" [52, 1965, p. 340].

The Keynesian approach to macroeconomic theory and policy, however, regrouped around the Phillips curve [57, A. W. Phillips, 1958]. This approach assumed that money wages and costs were generally inflexible downwards and that the adjustments to real wages thought necessary to secure full employment could be achieved indirectly via increases in the price level.

Milton Friedman [25, 1968] and Edmund S. Phelps [54, 1967; 55, 1970] pointed to the implausibility of being able to fool all the workers all the time. Workers and firms, it was argued, would wish to bargain about real wages, aware of inflation. Accordingly, the natural rate of unemployment, like the real rate of interest, would be inflation proof [25, Friedman, 1968].

One important consequence of these criticisms of the Phillips curve was that expectations and their formation could no longer be easily ignored. Macroeconomic analysis was about to escape the mold of static general equilibrium analysis into which it had been set by John Hicks [31, 1937] and Lloyd Metzler [46, 1951].

Theorists have attempted to rehabilitate the Phillips curve by allowing for expectations. The expectations explicit in the "expectation augmented" Phillips curve models of wages, prices, and employment were extrapolative or adaptive expectations of prices. Expectations of inflation following Phillip Cagan [15, 1956] were assumed to be a weighted average

of past levels or rates of change of prices.[1] Given such assumptions, it was still possible for prices to rise unexpectedly rapidly and for the unanticipated reduction in real wages to stimulate output and employment. Accordingly, it appeared as if the authorities still had the opportunity to trade off extra inflation for employment.

The theory and the models built around it failed the test of accurate prediction. (See Carl Christ [16, 1975].) Both inflation and unemployment increased in the seventies, and governments seemed unable to correct the maladies.

Enter Rational Expectations

Neo-Keynesian economics and policy prescriptions were assailed by an alternative theory of expectations, rational expectations, that was consistent with the natural rate of unemployment hypothesis. Rational expectations was the invention of John F. Muth [48, 1960; 49, 1961], and the earliest applications of the idea to stabilization policy issues were made some ten years later by Robert E. Lucas, Jr., in a highly influential series of papers [38, 1972; 39, 1973].

Muth was very clear about the implications of his work. As he put it [49, 1961, p. 315]:

> To make dynamic economic models complete, various expectations formulas have been used. There is, however, little evidence to suggest that the presumed relations bear a resemblance to the way the economy works.

Muth noted that it was "often necessary to make sensible predictions about the way expectations would change when either the amount of available information or the structure of the system is changed" [49, 1961, pp. 315–16].

[1] This work has been surveyed by David E. W. Laidler and Michael J. Parkin [35, 1975]; see also Anthony M. Santomero and John J. Seater [60, 1978].

Muth went on to suggest that [49, 1961, p. 316]:

> Expectations, since they are informed predictions of future events, are essentially the same as the predictions of the relevant economic theory. At the risk of confusing this purely descriptive hypothesis with a pronouncement as to what firms ought to do, we call such expectations "rational." It is sometimes argued that the assumption of rationality in economics leads to theories inconsistent with, or inadequate to explain, observed phenomena, especially changes over time (e.g., Simon). Our hypothesis is based on exactly the opposite point of view: that dynamic economic models do not assume enough rationality.
>
> The hypothesis can be rephrased a little more precisely as follows: that expectations of firms (or, more generally, the subjective probability distribution of outcomes) tend to be distributed, for the same information set, about the prediction of the theory (or the "objective" probability distributions of outcomes).

Muth remarked at a further point in his analysis that if the predictions of economic theory were much better than the expectations of the firms, then economists would be able to profit from that knowledge by establishing firms or selling forecasts [49, 1961, p. 318]. Muth seems to be saying no more and no less than that the observed empirical regularities that serve as the basis for, or the confirmation of, economic theory also form the basis of economic action. Or, in other words, good theory is good practice. (See also Alan Walters [69, 1971]).

The implication that economic agents or economists are omniscient cannot fairly be drawn from Muth's profound insights. It suggests rather that information is costly and that it will be used efficiently. Profitable opportunities to exploit available information will be exercised in a competitive world. Rational expectations are profit maximizing expectations. If the past proves to be a very imperfect guide to the future, then theory and practice will be inaccurate.

Muth developed his argument formally for what he described as a *"specialized form of the hypothesis"* (my emphasis). He assumed that random disturbances were normally distributed, that certainty equivalents existed for the variables to be predicted, and that the equations of the system including the expectations formulas were linear. Given these assumptions, Muth was able to derive mathematically optimum forecasts and establish the properties of the forecast errors.

The application of rational expectations to macro modelling takes the following general form. The aggregate demand, supply, and market clearing equations are specified with the addition of an error term to each structural equation. The error terms represent the influence of random demand and supply shocks on the system. The distribution of the shocks is assumed normal with expected values of zero.

The characteristic feature of these models is the form of the aggregate supply equation. In conformity with the stylized Phillips curve, the deviations of aggregate supply about its normal trend or permanent value are attributed to differences between actual and expected prices.

$$y_t - y_t^n = \alpha(P_t - P_t^*) + \epsilon$$

where y_t is the actual rate of change of real aggregate output in time period t, y_t^n is the "permanent" or trend rate of change of supply, P_t the realized price level in time t and P_t^* the price level that was expected to prevail in t, and ϵ is the random shock. The coefficient α is positively signed. Economic agents are assumed to confuse an observed increase in the actual price level P_t over P_t^* with an increase in the real price of their output to which they respond by producing more.

The models postulate further that expectations about the price level are "rational," *i.e.*,

$${}_{t+1}P_t^* = \underset{t}{E}P_{t+1}$$

where ${}_{t+1}P^*$ are the subjective expectations of the price level and $\underset{t}{E}P_{t+1}$ is the mathematically optimum forecast of the price level at time $t+1$ conditional on all that is known about the determination of prices.

This knowledge is captured by the predictions of the model when combined with all the information available about the exogenous variables and the shocks. That is to say the model consists of deterministic and stochastic components. The expectation equation, following Muth, asserts equality between subjective or psychological predictions and the objective expectations of the theory.

The forecast error $[P_t - (\underset{t-1}{E}P_t|\theta_{t-1})]$, where $(\underset{t-1}{E}P_t|\theta_{t-1})$ is the rational expectation of P_t at time $t-1$ given all the information available at that time (θ_{t-1}), has the property that a regression of the forecast error on θ_{t-1} is zero [61, Thomas J. Sargent, 1973; 65, Robert J. Shiller, 1978]. The implication of this result is that only the unanticipated impulses acting on the system can cause actual output to differ from its permanent path.

This rational expectations view of the world has a devastating implication for conventional stabilization policy. The implicit presumption of such policy interventions is that they take the economy by surprise. Rational expectations argues that it pays economic agents to anticipate the effect of policy actions. If there is any regularity to policy action and effect, it will be discovered and form part of the information upon which economic plans are based.

Lucas has summarized these arguments most succinctly [42, 1977]. He explains that in the theory of economic policy the motion of the economy may be described by a difference equation

$$y_{t+1} = F(y_t, x_t, \theta, \epsilon_t)$$

where the function F and parameter vector θ are derived from the demand and supply functions of economic agents; y_t is the state variable; x_t, represents the behavior of the "forcing" variables of the system, *e.g.*, government fiscal and monetary policy; ϵ_t is the vector of random error terms with known distribution. As Lucas remarks [41, 1976, p. 25]:

> There is . . . no presumption that (F,θ) will be easy to discover, but it *is* the central assumption of the theory of economic policy that once they *are* (approximately) known they will remain stable under arbitrary changes in the behavior of the forcing sequence $[x_t]$.
>
> *Everything we know about dynamic economic theory indicates that this presumption is unjustified.*

Rational expectations theorists have proved that the "laws of motion" of the economy cannot be "policy invariant" [59, Prescott, 1977, p. 31]. Important pioneering contributions to this research program, in addition to the work of Lucas cited above, were made by Sargent [61, 1973; 62, 1976], Sargent and Neil Wallace [63, 1973; 64, 1975], Robert J. Barro [6, 1976], Finn Kydland and Edward C. Prescott [32, 1977], and Prescott [59, 1977].

The theoretical force of the argument has been conceded even by those who would deny the implications the rational expectations theorists have drawn for stabilization policy (see Albert Ando [1, 1978]; Stanley Fischer [21, 1977]; and Phelps and John B. Taylor [56, 1977]).

There are other theoretical developments that have been undertaken independently of the rational expectations discussions, which are proving very helpful to the rational expectations research program. As Shiller explains, the statistical theory of martingales applied to economics by Paul Samuelson and Benoit Mandelbrot led in turn to the efficient market hypotheses about the behavior of security prices [65, Shiller, 1978]. Following Eugene F. Famas definition, an efficient capital market is a market that is efficient in processing information [20, 1976]. The prices of securities observed at any time are based on a "correct" evaluation of all information available at that time. In an efficient market prices "fully reflect" available information [20, 1976, p. 133]. The similarities between the rational expectations and the efficient market hypotheses are striking and will be drawn upon further below.

Shackle on General Equilibrium Analysis

G. L. S. Shackle has long denied the Keynesian rationale for stabilization policy. His critique however is not based on the logical inconsistencies of Keynesian theory. Shackle challenges on more fundamental grounds the relevance of equilibrium analysis to the analysis of economic instability. The Shackle critique draws much, entirely appropriate, inspiration from Keynes himself.

The Walrasian general equilibrium solution to the system of demand and supply equations that summarize economic behavior represent, as Shackle puts it, the "perfect and complete adjustment of everything in the economy to everything else, a general equilibrium attained after no matter how long a time" [67, 1966, p. 227]. Time and uncertainty are assumed away by the devise of tâtonnement. Information provided by prices is costlessly obtained.

But the real world, as Shackle explains, is characterized not only by inconsistent plans but also by unexpected change. Therefore economic plans have to be put into operation on the basis of judgments about an uncertain future. Time, expectations, and uncertainty should form the essence of any explanation of economic change. To quote Shackle again, "the problem of general unemployment has taught us that economic conduct is a response not only to scarcity but also to a circumstance at least as imperious,

namely, uncertainty" [67, 1966, p. 22].

The argument is that if all future prices and events were known with certainty or with a certainty equivalent, there would be no need to postpone any dispositions of purchasing power or the sale of goods. Contracts would be established for future delivery and payment and with insurance companies, and there could be no possibility of general excess supply or demand. Such certainty is also in effect the character of Arrow-Debreu intertemporal general equilibrium. As Kenneth Arrow explains [2, 1978, p. 159]:

> An alternative interpretation of the model is to assume that the consumers and producers forecast future prices perfectly. If they use as forecasts the equilibrium values, then as the economy passes through successive dates, it will find at each one of them that supplies and demands are equilibrated at the anticipated prices.

Arrow notes that [2, 1978, pp. 159–60]:

> the crucial empirical point is that markets for most future commodities do not exist. It is an interesting and illuminating question why they do not exist, but this is not the place to examine that.

It is clear that households do not place such contracts because they prefer to keep their options open in the uncertain world they know they live in. On the other hand, because the production process takes time, the firms are obliged (*i.e.*, find it profitable) to plan production for the future. In general, consumers can avoid future contracts because they can choose a generalized form of command over future goods, money. (See Karl Brunner and Allan Meltzer [12, 1971]). It would therefore appear as if some of the circuits for the transmission of market signals assumed by general equilibrium theory are missing [37, Axel Leijonhufvud, 1969].

Shackle has been described by his most perceptive critic, Alan Coddington, as a "fundamental Keynesian," by comparison with the "hydraulic Keynesians" who dominate the text books; fundamental in that they interpret Keynes's major contribution to economics as that of emphasizing "that the basis of choice lies in vague, uncertain and shifting expectations of future events and circumstances: expectations that have no firm foundation in circumstances" [19, Coddington, 1976, p. 1260].

Shackle describes Book IV of the *General Theory* with its 30 pages on expectations and 80 pages on the interest rate as "reversing even caricaturising" the relative impact of the two kinds of influence on investment decisions. Shackle finds Keynes's *General Theory* as being in two minds.

> It turns instinctively towards stable functions, uninterrupted movements along curves, under employment "equilibrium," secular stagnation, step-by-step declension (for example, of the level of interest-rates). Yet the message spelled out by all this creaking semaphore is that intended (designed, *ex-ante*) investment is a law to itself, dependent (if at all) on too illusive and involved a skein of subtle influences, . . . to be ever captured in any intelligible, let alone determinable, equation. [68, 1972, p. 218.]

Shackle believes that Keynes made his major contribution to economic understanding by recognizing that the source of economic instability could be found in the existence of uncertainty. Shackle also argues that recognition of the role of uncertainty provides no basis for stabilizing the economy.

> Keynes's search for an understanding of business led him to the conclusion that business is essentially, irremediably non-rational, not through its defects of organization or mistaken choice of ends or of methods, but in the nature of things at their most fundamental level; it is logically inconceivable for business to be rational. But if there is no consistently operating mechanism, how can any reliable levers exist for managing it. [68, 1972, p. 163.]

This fundamental Keynesian position does not necessarily encourage an attitude of benign neglect of what may be re-

garded as the inevitable fluctuations of a market economy. It can be used to justify much more than tinkering with the mechanism. Brunner and Meltzer argue that the *General Theory* was mainly a case for the socialization of investment [13, forth.]. Coddington considers Joan Robinson's theory of capital to be fundamentally Keynesian. Coddington explains Shackle's own approach to economic analysis in the following terms [18, 1975, pp. 151–52]:

> But what if an accommodation of real (novelty and uncertainty-bearing) time *and* the reasoning faculty of the economic actor are both essential to our understanding of economic life? If these two ideas are fundamentally antagonistic to one another, it follows that any attempt to capture one of them in a formal scheme will tend to exclude the other. . . . Shackle . . . recognises a third possibility, which is to embrace a mode of formulation which rejects formalisation as the ideal of clarity and rigour.

Shackle's attempts to abandon strict logic has not found many friends in the economics profession. The fate of another, perhaps better known, attempt at disequilibrium analysis is instructive. The general disequilibrium, quantity constrained, analysis associated with Robert Clower [17, 1965], Axel Leijonhufvud [36, 1968], and Robert Barro and Herschel Grossman [10, 1971] ran into the dead end of ad hoc assumptions and indeterminate outcomes.[3]

Lachmann on Expectations

It will be useful for our purposes to consider at some length the views of Ludwig Lachmann, one of the leading modern Austrians, on expectations and the integrating role played by market prices. It will be apparent that Lachmann anticipates some of the flavor of rational expectations. Lachmann also points to a crucial difference between his own and Keynes's view of the stock exchange.

[3] For a similar interpretation of these developments, see Michael Parkin [51, 1978].

Lachmann regards the formation of expectations as [33, 1956, p. 23]:

> nothing but a phase in this continuous process of exchange and transmission of knowledge which effectively integrates a market society.

Therefore the first task of a theory of expectations is [33, 1956, pp. 23–24]:

> to describe the structure of the mental acts which constitute the formation of expectations; its second task, to describe the process of interaction of a number of individuals whose conduct is orientated towards each other.
>
> For anybody who has to make a decision in the face of an uncertain future the formation of an expectation is *incidental* to the endeavour to diagnose the situation in which he has to act, an endeavour always undertaken with imperfect knowledge. The business man who forms an expectation is doing precisely what a scientist does when he formulates a working hypothesis. Both, business expectation and scientific hypothesis serve the same purpose; both reflect an attempt at cognition and orientation in an imperfectly known world, both embody imperfect knowledge to be tested and improved by later experience. Each expectation does not stand by itself but is the cumulative result of a series of former expectations which have been revised in the light of later experience, and these past revisions are the source of whatever present knowledge we have. On the other hand, our present expectation, to be revised later on as experience accrues, is not only the basis of the action plan but also a source of more perfect future knowledge. The formation of expectations is thus a continuous process, an element of the larger process of the transmission of knowledge.
>
> We have said that the formation of expectations is incidental to the diagnosis of the situation as a whole in which one has to act. How is this done? We analyse the situation, as we see it, in terms of *forces* to which we attribute various degrees of strength. We disregard what we believe to be *minor forces* and state our expectations in terms of the results we expect the operation of the *major forces* to have. Which forces we regard as major and minor is of course a matter of judgment. Here the subjective element of interpretation is seen at work. In general, we shall be inclined to treat forces working at random as minor forces, since we know nothing about their origin and direction,

and are therefore anyhow unable to predict the result of their operation. We treat as major forces those about whose origin and direction we think we know something. This means that in assessing the significance of price changes observed in the past for future changes we shall tend to neglect those we believe to have been due to random causes, and to confine our attention to those we believe due to more "permanent" causes.

Lachmann is concerned with the possibility of inconsistent interpersonal and intertemporal expectations and their resolution. He takes consolation from the thought that the effects of a series of unsuccessful expectations will be elimination from the market. Moreover Lachmann argues that the market system has evolved institutions that resolve the potential conflicts.

Lachmann regards the function of forward markets as that of spreading

> knowledge not about what is or has been, but about what people think will be. In this way, while the future will always remain uncertain, it is possible for the individual to acquire knowledge about other people's expectations and to adjust his own accordingly, expressing his own views about future prices by buying or selling forward, thus adding his own mite to the formation of market opinion as expressed in forward prices. In other words, forward markets tend to bring expectations into consistency with each other. They are on the side of the stabilizers. [33, 1956, pp. 67–68.]

While Lachmann recognizes the limited scope of forward trading, he regards the Stock Exchange as an example in "continuous futures."

> The Stock Exchange is a market in "continuous futures." It has therefore always been regarded by economists as the central market of the economic system and a most valuable economic barometer, a market, that is, which in its relative valuation of the various yield streams reflects, in a suitably "objectified" form, the articulate expectations of all those who wish to express them. All this may sound rather platitudinous and might hardly be worth mentioning were it not for the fact that it differs from the Keynesian theory of the Stock Exchange which is now so much *en vogue*. [33, 1956, p. 68.]

Working Hypotheses become Rational Expectations

Rational expectations takes a vital further step in the treatment of expectations by assuming that the "working hypotheses" that form the basis for expectations are equivalent to the presumptions of economic theory. Expectations may accordingly be modelled and theories tested.

In this way and by extending the maximizing assumption to the use of information, the rational expectations approach meaningfully extends the use of what Coddington describes as the reductionist method as applied in timeless general equilibrium analysis.

> The central idea [of reductionism] is the *reduction* of market phenomena to (stylized) individual choices. [19, 1976, p. 1258.]

It is this method that enables the connection to be made between "equilibrium states of market phenomena and the choice logic from which these states could be generated" [19, 1976, p. 1259].

Coddington makes the distinction between the existence of "knowledge deficiency" and the provision of "knowledge surrogates." He suggests that what is ordinarily covered by the blanket term "uncertainty" has two aspects. Knowledge deficiency covers "risk, uncertainty, mistakenness, ignorance, deception and delusion." There are he suggests, however, knowledge surrogates in the form of "conjecture, expectation, perception, learning, adaptation and so on" [18, 1975, pp. 152–53].

The fundamental issue is whether or not market prices may be regarded as serviceable "knowledge-surrogates" [18, Coddington, 1975, pp. 155–56]. There is as indicated previously an enormous amount at stake for economic analysis. The reductionist program must be built around equilibrating forces.

Of great relevance to this issue are the

numerous tests of the efficient market hypothesis. If markets are efficient, then price changes on those markets should follow an approximately random walk. If price changes are unrelated to previous prices, then all the forces known to affect prices are assumed to have been incorporated in ruling market prices. Efficient prices are equilibrium prices conditional on all information available when prices are established. A proof of efficient use of information in markets is a proof of rational expectations [29, Michael Hamburger and Elliott Platt 1975; 58, William Poole, 1976].

William Poole reports that [58, 1976, p. 467]:

> The validity of the rational-expectations hypothesis as applied to prices in active auction markets has been extensively tested. Numerous investigators have analysed an enormous amount of data using many different statistical techniques, and no serious departure from the predictions of the hypothesis has been found. Thus, there is very strong evidence in favor of the hypothesis.[3]

Critics of Rational Expectations

It has been argued above that the rational expectations approach does not assume that men need apply reason "to circumstances that are perfectly known." Arrow draws a different interpretation. It is ironic that he should criticize rational expectations because of its similarity to his own general equilibrium theory.

> It is true that the rational expectations hypothesis implies that the outcomes on future markets are well anticipated, but it is hard to see why this should be true. The very concept of the market and certainly many of the arguments in favor of the market system are based on the idea that it greatly simplifies the informational problems of economic agents, that they have limited powers of information acquisition, and that prices are economic summaries of the information from the rest of the world. But in the rational expectations hypothesis, economic agents are required to be superior statisticians, capable of analyzing the future general equilibria of the economy. [2, 1978, p. 160.]

Albert Ando adopts a similar position. He refers to the work of Lucas and Sargent as "classical equilibrium theory" and the theory of an "economic stationary state" generalized to "a suitably stochastic case" [1, 1978, pp. 16–17]. Herbert A. Simon in his Nobel Prize lecture advanced a similar argument [66, 1978]. It is however incorrect to assume that rational expectations regards errors in forecasts as insignificant or absent. The implication of rational expectations is rather that the forecast errors are not correlated with anything that could profitably be known when the forecast is made. Or in other words *while markets may be wrong, they are not wrong without good reason.*

The other main thrust of the criticism made by Arrow is that while stock markets may be efficient, the markets for commodities and labor are not.

Arrow argues as follows [2, 1978, p. 162]:

> Economic theory and policy-making may have unduly minimized stocks and anticipations; but one can err in the opposite direction. Economic theory implies that price anticipations are relevant in decisions about capital formation but not in flow decisions. In allocating consumption today, the future price of a completely perishable good is irrelevant (strictly speaking, this is true only if consumption bundles of different periods are separable in utility). An extreme example of a perishable commodity is labor-time. The laborer is durable, but the hours he can work are not. Hence, there is essentially no reason for anticipations of future wage increases, correct or incorrect, to affect the present supply of labor. Yet one finds models which argue that statistical unemployment is wholly or partly a voluntary withholding of labor because of unduly optimistic expectations!

Arrow remarks further: "the future wage level is important in estimating fu-

[3] For a more recent discussion of the relation between efficient markets and rational expectations, see Frederic Mishkin [47, 1978] and James Pesando [53, 1978].

ture income and hence present wealth. But unlike the case of durable goods, there is no market pressure driving expectations of price changes in a particular direction" [2, 1978, p. 163]. A rational expectations explanation of labor market behavior will be presented below.

It is however not at all obvious why prices in markets that are not well organized stock markets are any less efficient, in the sense that *obviously unexploited* opportunities to profit persist over time. The force driving prices in all markets, including labor markets, is the search for profits. Pure profits in the sense of Knight are earned by knowing or guessing better than the market. The market prices of resources fully reflect expected "normal" profits from their utilization in the production process.

Moreover economists do not usually seek an explanation of general economic instability in the markets for perishable goods. The prices of perishables, because of their nature, adjust rapidly to clear the market. The source of persistent excess supplies is more usually sought in labor markets precisely because the labor market is so obviously a quantity rather than a price-adjusting market. It should furthermore be recalled that Keynes's fundamental attack on classical economics was directed at the supposed irrationality of stock markets and so investment decisions.

Arrow reveals a misunderstanding of rational expectations by the following statement [2, 1978, pp. 161–62]:

> But once we go down the path of permitting inferences to be drawn, there are more and more subtle possibilities. One may regard a strong government monetary policy to be significant, not merely for itself but because it is an indication of the government's determination to do something about the current depressed situation. On this basis, the reaction might be much stronger than would be justified by the objective facts. Arguments of this kind were popular at one time with regard to rediscount rate policy on the part of central banks; it was the signalling effect rather than the objective impact on the economy that was dominant.

It was rather the consistency of the signal with the objective facts that was useful to the traders in securities. Bankers and businessmen do not need to know economic theory. They can however take advantage of rules of thumb. But rules of thumb will remain serviceable only if the structure of the economy remains unchanged. It was economists and central bankers who came to confuse the signal (interest rate changes) with the substance, which was balance-of-payments-dependent money supply changes. But this is another long story. Meltzer interprets the classical gold standard in similar terms [45, 1977].[4]

Some Econometric Tests and Applications of Rational Expectations

As Prescott noted expectations cannot be measured directly; they have to be inferred [59, 1977]. One example of treating expectations inferentially is to be found in Lucas's original investigation of unemployment inflation trade-offs across countries [39, 1973]. Lucas attempted to test the rational expectations model of the natural rate of unemployment by examining the relation between unemployment and the variance of price changes across countries. Lucas found there was a short-run Phillips curve only if no attempt was made to take advantage of it.

Another application has been made by Jacob A. Frenkel in an explanation of the

[4] It is perhaps appropriate to reflect on the famous (apocryphal) story of Rothschild and the Battle of Waterloo. It was well understood that a victory for Napoleon would be bearish for British stock. It was also assumed that the House of Rothschild would be the first to know the outcome of that great and terrible battle. Rothschild in due course appeared at the Exchange and gave his broker the signal to sell. We may all hope to have a suitably profitable occasion to destroy our credibility.

demand for money in Germany during the hyperinflation. Frenkel infers inflationary expectations from the forward exchange market after testing for the efficiency of that market [22, 1977]. The idea is that the forward rate represents an unbiased estimate of future spot rates and expectations of future spot rates depend on expected relative purchasing power. Therefore implicit in the future rate is an expectation of inflation. This expectation of inflation is applied in a regression estimate of the demand for money.

Barro has also tested the rational expectations hypothesis. Barro's studies attempt to show that it is only the unanticipated component of monetary growth that affects employment, real output, and the price level [7, 1977; 9, 1978]. Barro is undoubtedly asking *the* interesting question from a rational expectations point of view. However, this method of answering the question appears to violate the spirit of rational expectations in the following way.

In Barro's published models anticipated monetary growth is not inferred. Anticipated money growth is rather taken to be the money growth given by a regression equation of actual money changes on variables shown able to predict money supply growth over the entire period under observation (1941–73). The measure of anticipated monetary growth is therefore not made conditional on the information available to economic agents when expectations were formed.

In an earlier version of this study Barro measured anticipated monetary growth for period t based on information available only up to period $t - 1$. This is clearly a procedure that meets the objection raised above. Barro showed that bringing up to date the sample led to "little evolution of the coefficient estimates" [5, 1976, pp. 14–15]. When these properly dated measures of anticipated monetary growth were applied in the test of the hypothesis that only unanticipated monetary growth affected unemployment, they gave support to the theory, though not as much support as the alternative specifications. It is however notable that when the period of observation is extended and lower weights attached to World War II observations, the estimated values of the coefficients measuring the impact of monetary growth lagged one and two periods on anticipated monetary growth becomes 0.41 and 0.21 compared to the previous 0.24 and 0.35 [9, Barro, 1978, p. 551]. It is therefore not clear which equation properly represents the equation economic agents are assumed to know when they estimate the money supply. One is in effect being asked to accept a joint hypothesis. The appropriateness of the measure of anticipated monetary growth is judged by its ability to help predict unemployment. Since the theory of anticipated monetary growth is a simple single equation and inevitably somewhat ad hoc, there would seem no way to reject the first part of a joint hypothesis of this kind.

Objections on logical grounds to Barro's theory of the money supply process may also be raised. In this theory the government is assumed to rely on money creation rather than taxation when the federal deficit rises relative to the normal deficit. This clearly implies that the authorities also control interest rates, for otherwise higher interest rates could ration the supply of bank credit without requiring accommodating increases in high powered money. Such controls on interest rates would also make the money supply vary procyclically with employment. However, included in the anticipated money supply equation is a countercyclical effect of unemployment on money supply growth.

Sargent's measures of anticipated monetary growth and other variables as established by best fit autoregressions over the entire period of observation are also vul-

nerable to the criticism that anticipated variables are not conditioned on what could have been known [61, 1973; 62, 1976]. We know that autoregressive methods do not forecast well outside the sample period. One would therefore expect maximizing economic agents to be aware of the necessity for "parameter drift" in their forecasting exercises. To meet this criticism, Sargent could have economic agents revise their "ARIMA" (autoregressive integrated moving average) forecasts as new information became available. Unfortunately econometric exercises of the kind that assume that economic agents know the structure of the model for the entire sampling period may give credence to the view that rational expectations imagines economic agents to be, in Arrow's words, "superior statisticians capable of analyzing the future general equilibrium of the system."

Perhaps the most inventive econometric application of the rational expectations approach is the procedure devised by Robert E. Hall to examine the life-cycle and permanent-income hypotheses. The flaw in many tests of aggregate consumption behavior is the failure to take account of the endogenous character of income when income is assumed to be a determinant of consumption. As Hall points out, even simultaneous estimates of consumption and income often have to make uneasy compromises about the exogeneity of instrument variables. Hall tests a so-called stochastic version of the theory of consumption. As Hall explains the theory [26, 1978, p. 972]:

> When consumers maximize expected future utility, it is shown that the conditional expectations of future marginal utility is a function of today's level of consumption alone—all other information is irrelevant. In other words, apart from a trend, marginal utility obeys a random walk. If marginal utility is a linear function of consumption, then the implied stochastic properties of consumption are also those of random walk, again apart from a trend.

Hall's test of the theory is exactly analogous to the tests of the efficient market hypotheses. The hypothesis is tested by regressing current consumption on lagged consumption, real income, and wealth. Given the time trend in consumption only, the finding that consumption lagged one period can help predict current consumption provides considerable support for the theory. The implication is that anything known to influence future income and consumption is already reflected in current consumption decisions. The strong version of the theory, that consumption is unrelated to *any* economic variable observed in earlier periods, is rejected by the ability of stock market prices to help predict future consumption. Most of the predictive power of stock market prices is derived from the value of stocks in the previous period.

Rational Expectations, the Business Cycle, and the Labor Market

In his interpretation of rational expectations, Lucas addresses Frank Knight's distinction between risk and uncertainty in the following way [42, 1977, p. 15]:

> At a purely formal level, we know that a rational agent must formulate a subjective joint probability distribution over all unknown random variables which impinge on his present and future market opportunities. The link between this subjective view of the future and "reality" is a most complex philosophical question, but the way it is solved has little effect on the structure of the decision problem as seen by an individual agent. In particular, any distinction between *types* of randomness (such as Knight's (1921) distinction between "risk" and "uncertainty") is, at this level, meaningless.
>
> Unfortunately, the general hypothesis that economic agents are Bayesian decision makers has, in many applications, little empirical content: without some way of inferring what an agent's subjective view of the future is, this hypothesis is of no help in understanding his behavior. Even psychotic behavior can be (and today, is) understood as "rational," given a sufficiently abnormal view of relevant probabilities. To practice economics, we need *some* way (short

> of psychoanalysis, one hopes) of understanding *which* decision problem agents are solving.

Lucas suggests that rational expectations, which assumes the coincidence of subjective and true probabilities, is not applicable in situations in which one cannot guess which, if any, observable frequencies are relevant; situations that Knight called uncertainty. Lucas suggests it will most

> likely be useful in situations in which the probabilities of interest concern a fairly well defined recurrent event, situations of "risk" in Knight's terminology. In situations of risk, the hypothesis of rational behavior on the part of agents will have usable content, so that behavior may be explainable in terms of economic theory. In such situations, expectations are rational in Muth's sense. In cases of uncertainty, economic reasoning will be of no value. [42, 1977, p. 15.]

Lucas takes consolation from the apparent regularity of the business cycle as a justification for seeking "an equilibrium theory of the business cycle."

> These considerations explain why business cycle theorists emphasized the *recurrent* character of the cycle, and why we must hope they were right in doing so. Insofar as business cycles can be viewed as repeated instances of essentially similar events, it will be reasonable to treat agents as reacting to cyclical changes as "risk," or to assume their expectations are *rational,* that they have fairly stable arrangements for collecting and processing information, and that they utilize this information in forecasting the future in a stable way, *free of systematic and easily* correctable biases. [42, 1977, p. 15.]

If, however, making economic decisions for the future were complicated only by risk, the problem would be reduced to a zero sum game between firms and insurance companies. It is not plausible to seek an explanation of persistent errors about the allocation of resources that characterize the regular business cycle in these terms. Nevertheless, even if the problem is more than risk, we must accept with Lucas that economic agents have "stable arrangements for collecting and processing information" and that they use the information they have in a stable way "free of systematic and easily correctable bias."

A world dominated by uncertainty in the Knight sense would however seem to offer little profitable scope for the time-consuming nature of production and consumption we observe. It should be conceded that the regular business cycle could be seriously disturbed or "shocked" by an event or series of events for which the past provides very little guidance. Economic agents may not be able to form confident Bayesian priors about what will transpire over the relevant forecast spans. The Great Depression of the thirties in the United States may be explained in these terms. Revolutionary or expected revolutionary political change would also induce a lack of confidence in predictions about profitable investment decisions. The paralysis of investment could explain a prolonged depression, for even if investment were expected to remain at permanently lower levels, it would take some time before resources, especially labor resources, could be reallocated to alternative uses.

Lucas has some profound thoughts on the nature of the business cycle [42, 1977, pp. 19–20]:

> One must go behind price movements to the changes in technology and taste which underlie them. These changes are occurring all the time and, indeed, their importance to individual agents dominates by far the relatively minor movements which constitute the business cycle. Yet these movements should, in general, lead to relative, not general price movements. A new technology, reducing costs of producing an old good or making possible the production of a new one, will draw resources into the good which benefits, and *away from* the production of other goods. Taste shifts in favor of the purchase of one good involve reduced expenditures on others. Moreover, in a complex modern economy, there will be a large number of such shifts in any given period, each small in importance relative to total output. There will be much "averaging out" of such effects across markets.

An explanation of the regular business cycle must surely look to sources of systematic bias in the information available to economic agents that may mislead them about the true state of the economy. It is perhaps worth noting here that pre-Keynesian business cycle theorists, for example, Knut Wicksell and Friedrich Hayek, explained the business cycle as a response to false signals provided by changes in interest rates or the price level. The signals were thought to lead to a misallocation of resources between consumption and investment, which would be revealed by the emerging pattern of demand. This naturally made Hayek very skeptical of plans to increase consumer demand to stimulate employment when the problem was understood to be too many investment goods and too few consumption goods [30, 1933].

Lucas's own theory of the business cycle relies on the assumption of incomplete information and a consequent confusion between relative and absolute price changes [40, 1975]. The persistence of deviations of variables about their trend or permanent values that characterize the business cycle do not obviously accord well with the pure rational expectations property of serially uncorrelated forecast errors. As has been pointed out by Benjamin Friedman, the rational expectations models referred to above do not have any error learning properties [24, 1979]. There is no time lag between the collection of new information and its assimilation and implementation in revised conditional forecasts. As Friedman demonstrates, once such lags are introduced, mathematically optimum forecasts no longer display the property of serially uncorrelated errors. Optimal forecasts may be distributed lags on available information.

If lags in the response to new information are held responsible for the business cycle, an explanation must be sought for the existence and length of such lags that is consistent with maximizing behavior. We shall return to this question after a discussion of labor market characteristics.

Analysis of the Labor Market

The research program of rational expectations has been drawn inevitably to an explanation of labor market behavior. In the other economic markets mistaken plans are undertaken and expectations falsified, but the markets are more or less continuously cleared. Prices are cut or increased, losses are borne, capital is written off and readapted to other purposes. Resources are wasted, but bygones are bygones. Even if market clearing requires the bankruptcy of economic agents, this is not usually considered to be of great consequence. Bankruptcy may be the occasion for government subsidies "to save jobs."

The labor market appears to be different. It is conspicuously a quantity rather than a price adjusting market. Lucas addresses the issue in the following way [42, 1977, p. 12]:

> For nowhere is the "apparent contradiction" between "cyclical phenomena" and "economic equilibrium" theory sharper than in labor market behavior. Why, in the face of moderately fluctuating wages and prices should households *choose* to supply labor at sharply irregular rates through time?

Or to put it another way, why should firms be allowed to employ labor at sharply irregular rates over time [27, Hall, 1979]?

Rational expectations cannot rely on market frictions or search costs as an explanation of unemployment. Rigid wages in the face of persistent unemployment would be recognized sooner or later as inconsistent with maximizing behavior.

It may be assumed that the labor market is not cleared by an auctioneer at the labor exchange because such a system does not best serve the interests of most workers and firms. The absence of these clearing arrangements need not be attributed to

the power of trade unions or to government intervention. The incentive to innovate employment practices is as great as anywhere else in the economy. If there were profitable opportunities to increase the flexibility of wages in the labor market, it can be assumed they would be discovered and utilized. Labor markets are more quantity than price flexible for good reason. The developing theory of contracts may provide better answers to these questions (see Costas Azariadis [3, 1975]; Hall and David Lilien [28, 1978]).

One approach to this issue originated with Lucas and Leonard Rapping. They regard workers as substituting leisure and work over time in the attempt to maximize lifetime incomes. Workers are assumed to be aware of seasonal and cyclical fluctuations in wage incomes and that occupations differ in these respects. Therefore some of the variation in the supply of and demand for labor may be consistent with exceptations and lifetime income and consumption plans. Workers can be regarded as supplying more labor time when demand for labor is considered temporarily high and less when temporarily low. Over a working life, leisure and work may be substituted in response to expected fluctuations in demand for labor. Evidence of such effects has been found [43, Lucas and Rapping, 1969].

However, as Hall has pointed out, by no means all evidence from the labor market supports the view that variations in the supply of labor represent intertemporal substitution. In recessions workers typically are dismissed rather than quit and more particularly spend more time, on average, looking for work [27, Hall, 1979]. This would suggest that unexpected fluctuations in the demand for labor explain part of the observed unemployment.

Brunner, Alex Cukierman, and Meltzer, in their attempt to explain persistent unemployment, point to the problem workers and firms may have in inferring promptly the appropriate state of the economy from evidence available to them [11, 1979]. As Brunner and Meltzer explain [14, forth., pp. 4–12]:

> Fluctuations in aggregate economic activity and employment result from changes in the aggregate demand for and supply of output. The timing of the changes is uncertain. The changes may be positive or negative, and may be temporary or persistent. Workers and employers in individual firms do not know whether shocks or changes are temporary or long-lasting, real or nominal.
>
> The uncertainty that affects employment is summarized by the four-way classification of shocks as real and nominal, temporary and persistent. Uncertainty arises because of the inability of workers and employers to distinguish promptly, between the four categories. We assume that there is no way to extract from available data fully reliable information about the type of shock that has occurred.

The distinction between permanent and temporary disturbances is a very important one and adds to a possible confusion between real and nominal changes that characterize the usual rational expectations aggregate supply functions referred to above.

Brunner, Cukierman, and Meltzer have developed a model of stagflation and wage stickiness, which relies on the inability of agents to distinguish between permanent and transitory shocks. The distinction between what are permanent and what are merely transitory shocks is only revealed over time. The difficulty in drawing correct inferences about the state of the economy even after the shocks have occurred makes the mathematically optimum forecast a distributed lag proxy for the expectations of permanent variables. Persistent deviations about permanent values are a property of the model [11, 1979].

Rational Expectations and Stabilization Policy

Critics of rational expectations maintain that because wages and prices are less

than perfectly flexible, a short-run Phillips curve trade-off is still available to the authorities [4, Martin Baily, 1978; 50, Arthur Okun and George Perry, 1978]. This result is thought to hold even if agents are "rational" with respect to stabilization policy but are inhibited by fixed period contracts [21, Fischer, 1977; 56, Phelps and Taylor, 1977]. Bennett T. McCallum has responded in kind to this criticism [44, 1977] (see also Barro [8, 1977]). As is acknowledged by Fischer, the existence of the contracts is taken as given and not explained. How the contractual arrangements would alter if the authorities attempted to make use of these apparent rigidities is also not indicated. It should also be recognized that the periods for which individual firms and workers contract overlap, providing a degree of flexibility to the price level in general that may not be true of an individual price or wage.

The rational expectations critique of conventional stabilization policy would seem to apply *a fortiori* to an economy characterized by long-term contracts for the supply of labor or goods. Economic agents who find it convenient to exercise wage and price setting powers, firms and trade unions for example, will find it imperative to take a position on stabilization policy precisely because reversing positions in these markets is costly over the forecast span. Moreover, given such anticipations, there can be no presumption that the impact of stabilization policy will be under rather than over estimated. If policy turns out to be less inflationary than generally expected, rapid increases in the money supply could precede decreases in real output and employment.

There is however a more subtle possibility that given some inflexibility of prices or wages the authorities could attempt to surprise the market. This could be referred to as unconventional stabilization policy. The authorities would have to know what the market expected of the authorities and act differently. The market in turn would come to expect the authorities to act differently, and so a gaming type problem would emerge. This, of course, is to take discretionary stabilization policy far away from its conventional objective of compensating for the supposedly deflationary bias of a market economy. If rational expectations are taken seriously, it is by no means apparent why a market economy should have any deflationary bias even when wage and price rigidity is assumed. It may be accepted that discretionary stabilization policy will have real effects, given less than instantaneous market clearing, if it is unanticipated. However, the effects of such a policy will only be predictable if the authorities are the superior general equilibrium statisticians and furthermore if they can consistently win the game against maximizing economic agents.

With and without stabilization policy, the economy and economic agents are vulnerable to uncertainty or, to use the terminology of rational expectations, to random shocks. Shocks may be real or nominal, temporary or permanent. Shocks have real effects precisely because they were not and could not be anticipated. To make appropriate plans, economic agents have to identify the nature and duration of shocks. This raises the fundamental issue of the characteristics of the institutions that would enable the system to best cope with unavoidable uncertainty. Discretionary stabilization policy, which imposes nominal shocks on top of real ones, would not seem appropriate.

Conclusion

After a long and regrettable hiatus, macroeconomic analysis is once more wrestling seriously with the role played by expectations. Economic theory without an explanation of expectations will not be able to contribute towards an understanding of macroeconomic phenomena in a future-conscious world. The challenge of rational expectations and the response to it

is busy transforming macroeconomics for the better.

References

1. ANDO, ALBERT. "On a Theoretical and Empirical Basis of Macroeconometric Models," unpublished manuscript. University of Pennsylvania, October 1978.
2. ARROW, KENNETH J. "The Future and the Present in Economic Life," *Econ. Inquiry*, April 1978, *16*(2), pp. 157–69.
3. AZARIADIS, COSTAS. "Implicit Contracts and Underemployment Equilibria," *J. Polit. Econ.*, Dec. 1975, *83*(6), pp. 1183–1203.
4. BAILY, MARTIN NEIL. "Stabilization Policy and Private Economic Behavior," *Brookings Pap. Econ. Act.*, 1976, (1), pp. 11–60.
5. BARRO, ROBERT J. *Unanticipated monetary growth and unemployment in the United States.* Kingston, Ont.: Institute for Economic Research, Queen's University, 1976.
6. ———. "Rational Expectations and the Role of Monetary Policy," *J. Monet. Econ.*, Jan. 1976, *2*(1), pp. 1–32.
7. ———. "Unanticipated Money Growth and Unemployment in the United States," *Amer. Econ. Rev.*, March 1977, *67*(2), pp. 101–15.
8. ———. "Long Term Contracting, Sticky Prices, and Monetary Policy," *J. Monet. Econ.*, July 1977, *3*(3), pp. 305–16.
9. ———. "Unanticipated Money, Output, and the Price Level in the United States," *J. Polit. Econ.*, August 1978, *86*(4), pp. 549–80.
10. ——— AND GROSSMAN, HERSCHEL I. "A General Disequilibrium Model of Income and Employment," *Amer. Econ. Rev.*, March 1971, *61*(1), pp. 82–93.
11. BRUNNER, KARL, CUKIERMAN, ALEX AND MELTZER, ALLAN H. "Stabilization, Macroeconomics and the Permanence of Economic Shocks," unpublished manuscript, Carnegie-Mellon University, 1979.
12. ——— AND MELTZER, ALLAN H. "The Uses of Money; Money in the Theory of an Exchange Economy," *Amer. Econ. Rev.*, Dec. 1971, *61*(5), pp. 784–805.
13. ——— AND MELTZER, ALLAN H. "Keynesian Economics," Draft of Chapter 3, of *Monetary theory*, forthcoming.
14. ——— AND MELTZER, ALLAN H. "The Theory of Employment and Unemployment," Draft of Chapter 4 of *Monetary theory*, forthcoming.
15. CAGAN, PHILLIP. "The Monetary Dynamics of Hyperinflation" in *Studies in the quantity theory of money.* Edited by MILTON FRIEDMAN. Chicago: University of Chicago Press, 1956, pp. 25–117.
16. CHRIST, CARL F. "Judging the Performance of Econometric Models of the U.S. Economy," *Inter. Econ. Rev.*, Feb. 1975, *16*(1), pp. 54–74.
17. CLOWER, ROBERT W. "The Keynesian Counterrevolution: A Theoretical Appraisal," in *The theory of interest rates: Proceedings of a conference held by the International Economic Association.* Edited by FRANK H. HAHN AND F. P. R. BRECHLING. London: Macmillan; New York: St. Martin's Press, 1965, pp. 103–25.
18. CODDINGTON, ALAN. "Creaking Semaphore and Beyond; A Consideration of Shackle's *Epistemics and Economics*," *British J. Philosophy of Science*, June 1975, *26*(2), pp. 151–63.
19. ———. "Keynesian Economics: The Search for First Principles," *J. Econ. Lit.*, Dec. 1976, *14*(4), pp. 1258–73.
20. FAMA, EUGENE F. *Foundations of finance, portfolio decisions and securi-*

ties prices. New York: Basic Books, 1976.

21. FISCHER, STANLEY. "Long-Term Contracts, Rational Expectations and the Optimal Money Supply Rule," *J. Polit. Econ.*, Feb. 1977, *85*(1), pp. 191–205.
22. FRENKEL, JACOB A. "The Forward Exchange Rate, Expectations, and the Demand for Money: The German Hyperinflation," *Amer. Econ. Rev.*, Sept. 1977, *67*(4), pp. 653–70.
23. ———. "Further Evidence on Expectations and the Demand for Money during the German Hyperinflation," *J. Monet. Econ.*, Jan. 1979, *5*(1), pp. 81–96.
24. FRIEDMAN, BENJAMIN M. "Optimal Expectations and the Extreme Information Assumptions of 'Rational Expectations' Macromodels," *J. Monet. Econ.*, Jan. 1979, *5*(1), pp. 23–41.
25. FRIEDMAN, MILTON. "The Role of Monetary Policy," *Amer. Econ. Rev.*, March 1968, *58*(1), pp. 1–17.
26. HALL, ROBERT E. "Stochastic Implications of the Life Cycle-Permanent Income Hypothesis: Theory and Evidence," *J. Polit. Econ.*, Dec. 1978, *86*(6), pp. 971–87.
27. ———. "Labour Supply and Aggregate Fluctuations," Paper presented at the Carnegie-Rochester Conference on Public Policy, April 1979.
28. ——— AND LILIEN, DAVID M. "Efficient Wage Bargains Under Uncertain Supply and Demand," NBER Working Paper, 306, Dec. 1978.
29. HAMBURGER, MICHAEL J. AND PLATT, ELLIOTT N. "The Expectations Hypothesis and the Efficiency of the Treasury Bill Market," *Rev. Econ. Statist.*, May 1975, *57*(2), pp. 190–99.
30. HAYEK, FRIEDRICH A. *Monetary theory and the trade cycle*. Translated from the German by N. KALDOR AND H. M. CROOME. New York: Harcourt Brace, 1933.
31. HICKS, JOHN. "Mr. Keynes and the 'Classic': A Suggested Interpretation," *Econometrica*, April 1937, *5*, pp. 147–59.
32. KYDLAND, FINN E. AND PRESCOTT, EDWARD C. "Rules Rather than Discretion: The Inconsistency of Optimal Plans," *J. Polit. Econ.*, June 1977, *85*(3), pp. 473–91.
33. LACHMANN, LUDWIG M. *Capital and its structure*. London: London School of Economics and Political Science, 1956.
34. LAIDLER, DAVID E. W. "Money and Money Income: An Essay on the 'Transmission Mechanism,'" *J. Monet. Econ.*, April 1978, *4*(2) pp. 151–91.
35. ——— AND PARKIN, J. MICHAEL. "Inflation: A Survey," *Econ. J.*, Dec. 1975, *85*(340), pp. 741–809.
36. LEIJONHUFVUD, AXEL. *On Keynesian economics and the economics of Keynes: A study in monetary theory*. New York: Oxford University Press, 1968.
37. ———. *Keynes and the Classics: Two lectures on Keynes' contribution to economic theory*. Occasional Paper no. 30. London: Institute of Economic Affairs, 1969.
38. LUCAS, ROBERT E., JR. "Expectations and the Neutrality of Money," *J. Econ. Theory*, April 1972, *4*(2), pp. 102–24.
39. ———. "Some International Evidence on Output-Inflation Tradeoffs," *Amer. Econ. Rev.*, June 1973, *63*(3), pp. 326–34.
40. ———. "An Equilibrium Model of the Business Cycle," *J. Polit. Econ.*, Dec. 1975, *83*(6), pp. 1113–44.
41. ———. "Econometric Policy Evaluation: A Critique" in *The Phillips Curve and Labor Markets*. Edited by KARL BRUNNER AND ALLAN H. MELTZER. Carnegie-Rochester Conferences on Public Policy, Vol. 1. *J. Monet. Econ.*, Supplement, 1976, pp. 19–46.

42. ———. "Understanding Business Cycles," in *Stabilization of the domestic and international economy.* Edited by KARL BRUNNER AND ALLAN H. MELTZER. Carnegie-Rochester Conferences on Public Policy, Vol. 5. *J. Monet. Econ.*, Supplement, 1977, pp. 7–29.

43. ——— AND RAPPING, LEONARD A. "Real Wages, Employment and Inflation," *J. Polit. Econ.*, Sept./Oct. 1969, *77*(5), pp. 721–54.

44. McCALLUM, BENNETT T. "Price-Level Stickiness and the Feasibility of Monetary Stabilization Policy with Rational Expectations," *J. Polit. Econ.*, June 1977, *85*(3), pp. 627–34.

45. MELTZER, ALLAN H. "Anticipated Inflation and Unanticipated Price Change: A Test of the Price-Specie Flow Theory and the Phillips Curve," *J. Money, Credit, Banking*, Feb. 1977, *9*(1), Pt. 1, pp. 182–205.

46. METZLER, LLOYD A. "Wealth, Saving and the Rate of Interest," *J. Polit. Econ.*, April 1951, *59*, pp. 93–116.

47. MISHKIN, FREDERIC S. "Efficient-Markets Theory: Implications for Monetary Policy," *Brookings Pap. Econ. Act.*, 1978, (3), pp. 707–52.

48. MUTH, JOHN F. "Optimal Properties of Exponentially Weighted Forecasts," *J. Amer. Statist. Assoc.*, June 1960, *55*(290), pp. 299–306.

49. ———. "Rational Expectations and the Theory of Price Movements," *Econometrica*, July 1961, *29*(3), pp. 315–35.

50. OKUN, ARTHUR M. AND PERRY, GEORGE L. "Editors Summary," *Brookings Pap. Econ. Act.*, 1978, (1), pp. 1–9.

51. PARKIN, MICHAEL. *Unemployment and inflation: Facts, theories, puzzles and policies.* University of Western Ontario, Research Report, Department of Economics, no. 7831, 1978.

52. PATINKIN, DON. *Money, interest and prices.* Second edition. New York: Harper and Row, [1956] 1965.

53. PESANDO, JAMES E. "On the Efficiency of the Bond Market: Some Canadian Evidence," *J. Polit. Econ.*, Dec. 1978, *86*(6), pp. 1057–76.

54. PHELPS, EDMUND S. "Phillips Curves, Expectations of Inflation and Optimal Unemployment Over Time," *Economica, N.S.*, August 1967, *34*(135), pp. 254–81.

55. ———, ET AL. *Microeconomic foundations of employment and inflation theory.* New York: Norton, 1970.

56. ——— AND TAYLOR, JOHN B. "Stabilizing Powers of Monetary Policy under Rational Expectations," *J. Polit. Econ.*, Feb. 1977, *85*(1) pp. 163–90.

57. PHILLIPS, A. W. "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957," *Economica N.S.*, Nov. 1958, *25*(100), pp. 283–99.

58. POOLE, WILLIAM. "Rational Expectations in the Macro Model," *Brookings Pap. Econ. Act.*, 1976, (2), pp. 463–505.

59. PRESCOTT, EDWARD C. "Should Control Theory Be Used for Economic Stabilization?" in *Optimal policies, control theory and technology exports.* Edited by KARL BRUNNER AND ALLAN H. MELTZER. Carnegie-Rochester Conference Series on Public Policy, Vol. 7. *J. Monet. Econ.*, Supplement, 1977, pp. 13–38.

60. SANTOMERO, ANTHONY M. AND SEATER JOHN J. "The Inflation-Unemployment Trade-off: A Critique of the Literature," *J. Econ. Lit.*, June 1978, *16*(2), pp. 499–544.

61. SARGENT, THOMAS J. "Rational Expectations, the Real Rate of Interest and the Natural Rate of Unemployment," *Brookings Pap. Econ. Act.*, 1973, (2), pp. 429–72.

62. ______. "A Classical Macroeconomic Model for the United States," *J. Polit. Econ.*, April 1976, *84*(2), pp. 207–37.
63. ______ AND WALLACE, NEIL. "Rational Expectations and the Dynamics of Hyperinflation," *Inter. Econ. Rev.*, June 1973, *14*(2), pp. 328–50.
64. ______ AND WALLACE, NEIL. "'Rational' Expectations, the Optimal Monetary Instrument and the Optimal Money Supply Rule," *J. Polit. Econ.*, April 1975, *83*(2), pp. 241–55.
65. SHILLER, ROBERT J. "Rational Expectations and the Dynamic Structure of Macroeconomic Models: A Critical Review," *J. Monet. Econ.*, Jan. 1978, *4*(1), pp. 1–44.
66. SIMON, HERBERT A. *Rational decision making in business organizations.* Nobel Prize Lecture, 1978.
67. SHACKLE, GEORGE L. S. *The nature of economic thought: Selected papers, 1955–1964.* Cambridge: Cambridge University Press, 1966.
68. ______. *Epistemics and economics.* Cambridge: Cambridge University Press, 1972.
69. WALTERS, ALAN A., "Consistent Expectations, Distributed Lags and the Quantity Theory," *Econ. J.*, June 1971, *81*(322), pp. 273–81.

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Book Reviews

000 General Economics; Theory; History; Systems

010 General Economics

The origins of the economy: A comparative study of distribution in primitive and peasant economies. By Frederic L. Pryor. Studies in Social Discontinuity. New York and London: Harcourt Brace Jovanovich, Academic Press, 1977. Pp. xviii, 475. $19.50.
JEL 79–0009

This book is subtitled, "A Comparative Study of Distribution in Primitive and Peasant Societies," and it is this more modest subtitle that accurately indicates the book's subject matter. The major aim of the book is to investigate different types of distributional mechanisms and institutions in a sample of 60 societies. Pryor sets out to test empirically the origins of different modes of distribution, utilizing existing ethnographies. Insofar as I am aware, it is the only systematic, cross cultural study of all aspects of distribution that has been published to date.

To begin, a synopsis of the book is presented. Chapters 1–3 lucidly state Pryor's aims and the methodology to be used. His analytical techniques are eclectic, for Pryor tries to find a middle ground between the rigor of economics and the case study approach of structural functional anthropology. Pryor sets out to "explain" different modes of distribution *vis-à-vis* a wide range of independent variables. But while he uses standard multivariate statistical techniques, the variables incorporated in his regressions are wide ranging and include not only "economic," but also "social," "social structural," "political," "environmental," and "atmospheric" variables. In chapter 3, Galton's problem—the extent to which cultural diffusion can bias statistical cross-sectional results—is discussed.

Chapter 4, jointly written with Nelson Graburn, is a case study of exchange and transfer in the Eskimo (Innuit) village of Suglug and is a useful introduction to Pryor's mode of analysis. However, it represents an unusual beginning (a case study) to a large sample, cross-sectional study.

In chapter 5, the study proper begins, as the determinants of market exchange are examined. Pryor meticulously divides the "market" into markets for goods, for labor, for credit, and for land and land rentals. The various types of market exchange appear to be, primarily, functions of the level of economic development. Chapter 6, as its title suggests is "a digression on the origins of money" and appears appropriately after market exchange. Chapter 7 examines the determinants of goods and labor reciprocity. The mode of production appears to be the major determinant of this distributional mode.

Chapters 8 and 9 examine the determinants of non-centric transfers; non-centric transfers refer to transactions between pairs of individuals in contrast to centric transfers, which are focused around a single individual or institution (*e.g.*, political or religious establishment). The former analyzes slavery. Here Pryor stresses the distinction between slaves as economic capital, where they are economically exploited, and as social capital, where they are a group lacking social and political rights. The latter chapter, examines non-centric transfers other than slavery. Chapter 10 examines centric transfers of goods and services—what Karl Polanyi [1, 1957] termed redistribution-transfer transactions with a variety of focal points in a society.

Chapter 11, aptly entitled "Some Broader Issues," summarizes the study and suggests directions and disciplines for which this book will be of use.

A synopsis of this book would be incomplete without reference to the mass of information contained in Appendixes A–F, which cover 130 pages. Particularly valuable are Appendix A,

the ethnographic data used; Appendix D, a glossary of technical terms; and Appendix E, principal ethnographic sources.

This study is not without caveats, and it is entirely to Pryor's credit that he identifies many of these. Pryor aims this study at an unusually wide audience, and while he appears most comfortable with the language and analytical techniques of economics, he nonetheless utilizes a multidisciplinary approach. Inevitably, while economists may find the statistical techniques elementary, anthropologists may see them as overcomplicated; the reverse discontent may arise in discussions of kinship relations and social structural concepts.

More specific shortcomings occur at three levels—what are termed here data problems, analytical technique issues, and hypotheses issues. The data problem refers to the nature of Pryor's data base and the subjectivity involved in its quantification. A careful examination of Appendixes A and E is essential to understand data shortcomings. One problem is that all ethnographies used represent societies at different stages of acculturation—hence, are they comparable? Another, is that while Pryor has generally utilized ethnographies with an economic flavor, the extent of researchers' interest in economic organization varied, and this resulted in differing quality of economic reporting. When Pryor uses more than one ethnographic source for a particular society, the same problem arises. A final data-related caveat arises with data quantification—Pryor (p. 301) admits subjectivity, but readers must closely examine the relevant appendices to ascertain the extent of their agreement with Pryor's valuation.

Another problem area relates to the analytical techniques used and arises from the economics perspective. To be fair, Pryor makes the reader fully aware of some of the inherent shortcomings associated with multiple regression analysis—in particular the problem of multicollinearity. But linked to the data-related caveats mentioned, the use of dummy variables does not seem entirely satisfactory. Sometimes when dummy variables are used a yes/no distinction (*e.g.*, existence of an economic institution) is sufficient, while at other times an arbitrary grading system is used. The extension of statistically significant cross-sectional relationships to time series is not convincing. For while Galton's problem is thoroughly dealt with, it appears that a significant source of cultural diffusion is not, and cannot, be isolated—*i.e.*, contact with Western societies. Hence, significant relationships in the ethnographic present may not be valid for societies in their past (pristine) states.

Hypothesized issues arise primarily from the anthropological quarter. The age-old formalist/substantivist debate is, in line with common practice in the 1970's, largely ignored by Pryor. But more significantly, recent Marxist contributions to economic anthropology are barely alluded to. The very title of the book involves a rejection of Marxist theory, for Marxists see the origin of the economy in the (dominant) mode of production, not distribution. A second problem here is that Pryor barely mentions the fundamental distribution question anthropologists ask—he accepts that distribution is an economic institution, rather than examining to what extent distribution is a kin- or ritual-based phenomenon, particularly in primitive societies. Similarly, the concept of "invisible" transfers is superficially dealt with, given the possible balancing qualities of these transfers that have been the subject-matter of entire ethnographies.

It must be emphasized that these strictures are all minor and indicate the thought-provoking nature of Pryor's study for the reviewer rather than any insurmountable shortcoming. They are completely outweighed by the positive aspects of the study to which we now turn.

This book is a path-breaker. Many distribution-related definitions are at long last rigorously examined on theoretical and empirical planes. Pryor introduces new concepts and distinctions (*e.g.*, centric versus non-centric transfers) that elucidate much that anthropologists and economists have tended to "fudge" in the past. The very fact that it breaks out of the Polanyi (distribution is reciprocal, redistributive or market) and Sahlins (reciprocity is generalized, balanced or negative) intellectual straightjacket makes it a most significant modern contribution. Readers are likely to be impressed by the elegance of presentation and the power of Pryor's literary style—for he manages to pool a wealth of information into an admirably concise exposition. Finally, the non-

dogmatic nature of this study, evidenced from the beginning, is refreshing.

As Pryor notes (p. 311), the conclusions, given the width aimed for, are somewhat disappointing. For the study set out to examine the major determinants of a variety of modes of distribution and found variables classified as "economic" to be of prime importance. In particular the level of economic development (defined, using the Careiro technique, as economic complexity) was significant, but other important variables included the mode of production and the capital intensity of production. But of the noneconomic variables none seemed consistently significant.

This book can be recommended to any discipline linked to social (cultural) anthropology and economics—particularly economic anthropology, development economics, comparative economics, and economic history. For these disciplines it demonstrates convincingly the range of modes of distribution significant in non-Western societies. It also illustrates by example how economics can be blended with other disciplines and how noneconomic variables can be incorporated into a formal model. To conclude, this stimulating book is essential reading for all scholars in the above-mentioned disciplines.

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REFERENCES

1. POLANYI, KARL. "The economy as instituted process," Edited by KARL POLANYI, CONRAD M. ARENSBERG, and H. W. PEARSON. *Trade and markets in the early empires.* New York: Free Press, 1957, pp. 243–70.
2. SAHLINS, MARSHALL. *Stone age economics.* Chicago: Aldine/Atherton, 1972.

Modern capitalism: Its growth and transformation. By JOHN CORNWALL. New York: St. Martin's Press, 1977. Pp. xii, 226. $17.95.
JEL 79–0083

The essential purpose of this work is to explain rates of growth of manufacturing output among developed market economies. In the theory (although not, as will be seen below, in the statistical tests) the key explanatory variable is the level of development a country has already reached; thus the model belongs in the class that may be called "nonlinear" models of economic growth. In this example, however, rather than the rate of change of per capita GNP being expressed as a function of the level of the same variable, the rate of change of (the log of) manufacturing output is expressed as a function the level of per capita GNP. Given the importance of the manufacturing sector in generating—as an "engine of growth"—the overall growth process, Cornwall's model implies that both manufacturing and total GNP follow an S-shaped path through time, but with the curve of the former being more accentuated (rising more sharply in the early phase, flattening more markedly in the later phase) than the latter.

The argument is supported with a lucid and comprehensive survey of a now significant literature concerned with the role of inventions, technology-development, and technology-diffusion in economic growth, a survey that stands on its own as an exposition and which any general economist interested in this field will find both instructive and rewarding: the introductory discussion of the underread work of Ingvar Svennilson [4, 1954] should also be singled out for praise.

On foundations made from ideas and findings established in the previous literature, the author erects a theory that may be synoptically described as follows. Economic growth in industrializing countries is inevitably unbalanced, with sharp empirical differences in the growth rates of different sectors. Statistical evidence suggests that the supply of labor to manufacturing (with possible exceptions in 1953–73 in the cases of Austria, Belgium, the Netherlands, and the U.K.) has not in practice constrained the growth of sectoral outputs, so that the latter can be seen as being, in the first instance, demand-determined. But owing to backward and forward linkages, the growth of manufacturing output feeds back both into the supply side and into the demand side of the growing economic system.

On the demand side, the author cites evidence that despite international differences of geography, culture, and historical growth-profiles, Engel curves for corresponding sectors in different countries at different times are surprisingly similar. If one knows the Engel curve

for a particular sector, one can in principle predict the growth-elasticity of demand for the sector's products in a particular country at a particular time from knowledge of the level of development reached by that country at that time. In turn, the predicted growth rate of demand for the output of a sector can be expressed as a function of two variables, namely the level and rate of change of aggregate per capita GNP. In chapter 8 of the book the author applies this construction to the "sector" that is represented by total manufacturing.

Cornwall then modifies the basic theory in four ways. First, the feedback effect of manufacturing growth on GNP growth, referred to above, is explicitly taken into account (although not, it must be said, very explicitly modelled). Here the author pays considerable attention to the work of Joseph Schmookler [3, 1966] on the relationship between sectoral growth rates and sectoral propensities to generate patented inventions. He modifies Schmookler's demand-oriented approach, however, to allow for two-way causation; demand stimulates the supply of inventions; the supply of inventions stimulates demand for the results of inventions. Secondly, Cornwall argues that the supply of inventions is closely associated with the activity of the investment-goods industries so that, other things being equal, a high investment ratio in manufacturing enhances the whole growth process. Thirdly, Cornwall also brings in "catch-up" effects. The supply of innovations in any one country will tend to be enhanced by diffusion from any other countries that happen to have gotten ahead. Although this effect is manifested mainly in manufacturing, its potency depends on general development and can therefore be represented by the gap between aggregate per capita GNP in the given country and the corresponding figure for the country at the top of the per capita GNP league tables. Fourthly and finally, in order to allow for influences suggested in the work of Svennilson [4, 1954] and P. J. Verdoorn [5, 1949], the growth rate of total population appears as an additional "push-variable" for the system as a whole (reviewer's interpretation; the author does not fully explain the theoretical role of this variable).

Combining all the foregoing relationships into what is loosely described as a reduced form, the author arrives at a four-variable regression equation: dependent variable, growth-rate of total output in manufacturing; explanatory variables, ratio of per capita GNP to per capita GNP in the most advanced country, manufacturing investment ratio, and growth rate of population. Applying this to more or less the same data as T. F. Cripps and R. J. Tarling [1, 1973], *i.e.*, 12 OECD countries in moving cross-section 1950–71, Cornwall obtains significant results on all three explanatory variables with R^2 just over 0.7. Elimination of either the GNP variable or the population variable reduces R^2 by no more than 0.01, however, so that in the absence of other information it appears that the bulk of the explanatory power of the equation is provided by the investment variable. The author also finds, as have others using the same data, that the regression results are rather unrobust to variations of the country sample.

The book concludes with a chapter entitled "Closing Time in the Gardens of the West" in which the author adduces his own findings and other data to support the idea that among rich countries economic growth is grinding to a halt, leading to increased inflation and internal political tensions.

In summary, this is an interesting book, of which a number of fairly severe criticisms must however be made. (1) Both the structural specifications and the mathematical interpretations of the model appear, to this reviewer at least, to be distinctly loose. In order to get from the Engel curve to the demand side of the dynamic model one must first differentiate the equation of the Engel curve, then undertake the manipulations necessary to make the dependent variable a semi-logarithmic derivative with respect to time, and finally derive the differential equation that implicitly underlies the model. When interactions between manufacturing on the one hand and total GNP on the other are added, the resulting relationships, both between these two variables and between each and time, become quite complex and are not very happily expressed in the rather impressionistic equations found, for example, on page 139. (2) The lack of more explicit specification is particularly bothersome in the case of the

treatment of the effects of investment. The justification for treating the manufacturing investment ratio as an explanatory variable is confined to two sentences in chapter 6 (top of page 120) and implies that the variable is used as a proxy for a distinct, and virtually undiscussed, additional exogenous variable, namely the country's "effort" to borrow or develop technology. But, surely, in any theory that is driven, as is Cornwall's, by technical progress, there must be a large endogenous element in investment variations; the greater the technological dynamism of the society, the more it will both desire and be able to invest in manufacturing. Hence, in the absence of a simultaneous-equations approach, the inclusion of manufacturing investment on the right hand side of the system must be a treacherous step. That it has in fact let the author down seems indicated by the evidence, noted above, that the investment variable appears to swamp the regressions. In this connection the author could be criticized for not printing any single-variable equations or providing the correlation matrix. (3) The looseness of specification also creates doubt in the mind as to whether the dependent variable ought, in fact, to be total manufacturing output rather than output per worker. The "catch-up" effect, for example, must surely work on productivity rather than output. (4) As with others who have used the same data, the author fails to emphasize the considerable noise and bias created by making international comparisons with GNP's converted at official exchange rates. It is not his fault that he undertook his research before the publication by Irving B. Kravis, Alan W. Heston, and Robert Summers [2, 1978] of purchasing-power-exchange-rate-converted data for over 100 countries, but he might at least have suspected that the unrobustness mentioned above was likely to have been caused by exchange-rate noise, as is, in fact, the case. (5) The concluding chapter of Spenglerian speculation seems weak. There is indeed evidence that rich countries are growing more slowly than poor countries, passing through a point of inflexion that has created social and economic adjustment problems. But on the longer view, it is not at all obvious that this development is a Bad Thing for the human race. It may help improve world income distribution and also relieve us of some threats, real or apparent, of various kinds of neo-Malthusian disaster.

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REFERENCES

1. CRIPPS, T. F. AND TARLING, R. J. *Growth in advanced capitalist economies, 1950–1970.* Cambridge: Cambridge University Press, 1973.
2. KRAVIS, IRVING B.; HESTON, ALAN W. AND SUMMERS, ROBERT. "Real GDP Per Capita for More than One Hundred Countries" *Econ. J.*, June 1978, *88*(350), pp. 215–42.
3. SCHMOOKLER, JACOB. *Invention and economic growth.* Cambridge, Mass.: Harvard University Press, 1966.
4. SVENNILSON, S. INGVAR. *Growth and stagnation in the European economy.* Geneva: United Nations Economic Commission for Europe, 1954.
5. VERDOORN, PETRUS J. "Fattori che regolano lo sviluppo della produttivita del lavoro" *L'Industria*, 1949.

020 GENERAL ECONOMIC THEORY

Strategy and group choice. By PRASANTA K. PATTANAIK. With a contribution by BHASKAR DUTTA. Contributions to Economic Analysis, Vol. 113. Amsterdam; New York and Oxford: North-Holland, 1978. Pp. x, 213, $39.25. *JEL 78–0894*

The theory of social choice presents a disappointingly large number of negative results on the possibility of constructing social decision mechanisms satisfying reasonable criteria. This book is in this same tradition, providing meticulous evidence on the impossibility of finding reasonable group choice procedures that are not susceptible to strategic manipulation through misrepresentation of individual preferences. In the process of showing the robustness of these findings to wide variations in assumptions, the author also presents an insightful synthesis of the main strands of previous work in the theory of choice. The laudable contribution of all of this is to delineate a minimal set of assumptions, which fail to provide first-best results, with interesting implications for empirical work in determining whether

and how this state of affairs could be resolved.

Let us now consider the framework and results of the book. A finite group L of individuals is given, each with a weak preference order $\bar{R}_i$, $i \epsilon L$, on a set of alternatives. Assume that each $\bar{R}_i$ is an ordering of X (reflexive, connected, and transitive) and let $S = S_1 \times \ldots \times S_L$ be the set of all possible n-tuples of orderings on X. Elements $s \epsilon S$ are called *situations*, and subsets $A \subset X$ are called *issues*. We imagine that some issue $A \subset X$ is fixed for the moment and consider the group's choice problem of selecting a preferred subset of A. This problem can be analyzed, as in Kenneth Arrow's and Amartya Sen's seminal work, by considering properties of various group decision functions (*GDF*'s), f, which assign non-empty subsets $f(s, A) \subset A$ for certain decidable situations and issues.

Now Pattanaik's interest is in determining, for a given *GDF* f and issue A, whether group members will find it in their interest to act according to their true preferences $\bar{s} = (\bar{R}_1, \ldots, \bar{R}_L)$. To study this, he assumes that group members predict the outcome $f(s, A)$ ensuing when the group behaves as if its preference structure were s. For any given issue A, the true preferences $\bar{s}$ can then be used (in various ways) to induce a preference order on S through these outcomes. Viewing this as a game $G = G_f(\bar{s}, A)$, with strategy spaces $\{S_i | i \epsilon L\}$ and preferences as given by the induced preferences just described, the problem addressed is to determine what conditions on the *GDF* f and the true preferences $\bar{s} = (\bar{R}_1, \ldots, \bar{R}_n)$ will insure that $\bar{s}$ is an equilibrium of $G_f(\bar{s}, A)$. When $\bar{s}$ is an equilibrium of $G_f(\bar{s}, A)$ for every issue A, we say that f is *strategy-proof.*

After giving a neat summary of the structure and properties of group decision functions, the author proceeds to show that reasonable assumptions on a *GDF* (*e.g.*, limited decisiveness, weak binariness, limited neutrality, limited independence of irrelevant alternatives, and limited strict Pareto properties) and on the manner in which preferences are induced on S by this given *GDF* (*e.g.*, by a maximin rule over outcomes $f(s, A)$ resulting from (s, A)) imply that the *GDF* in question is not strategy-proof against even unilateral departures from true-preferences, let alone against departures by coalitions. Alternatively, assuming a *GDF* to be strategy-proof and otherwise reasonable implies that some individual or coalition has near dictatorial power.

The author explores these issues in depth for *GDF*'s, which involve choice on the basis of binary comparisons, for finite ranking rules (*e.g.*, the Borda rule) and for *GDF*'s f, for which $f(s, A)$ is singleton for every (s, A). It turns out that these variants generally fail to yield a strategy-proof *GDF.* The author then considers weaker notions of strategy-proofness as well as restrictions on the form of the sincere preferences of individuals (single-peakedness), and these lead to a few positive results. In particular, the author provides an interesting analysis of when the set of equilibria for the derived game $G_f(\bar{s}, A)$ is non-empty for every possible issue A and set of true preferences $\bar{s} \epsilon S$. This *minimal consistency condition* for strategy-proofness derives from the fact that, for any strategy-proof *GDF* f, $G_f(\bar{s}, A)$ not only has a non-empty equilibrium set, but, in fact, $\bar{s}$ belongs to it for every issue A.

All of the above results are derived under the assumption that the issue A under consideration is fixed. In a final section the author and Bhaskar Dutta study the related problem of strategic manipulation in situations where a subset $L_* \subset L$ determines the issue A to which group choice is then restricted. Just as when issues were fixed, so here too it is verified that strategic behavior in choice situations can be expected if the *GDF* has reasonable properties.

What Pattanaik has provided in total is a readable and current synthesis of the theoretical literature on group choice. The scope of the author's analysis leaves little question as to the robustness of his conclusions, at least within the basic framework of rationality and perfect knowledge by group members concerning preferences and behavior of others. On its own ground, this book is difficult to criticize. One area worthy of more consideration than it receives here is whether strategic manipulation of group choice matters in an efficiency sense. This would amount to determining conditions on *GDF*'s such that they are minimally consistent in the above sense and for which outcomes achieved under them are Pareto with respect to true preferences. Another area deserving a more extended analysis is the relationship between the results here

and the emerging literature on (incentives-compatible) demand revelation processes and public goods.

On broader grounds, one can naturally raise a host of questions regarding the relevance of this research to existing choice processes. While one should not fault the present author for not addressing these difficult issues, one nonetheless awaits with some impatience the results of linking this fine body of thoretical thought to the growing empirical and experimental literature on organizational and political choice processes.

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The valuation of social cost. Edited by DAVID W. PEARCE. London; Boston and Sydney: Allen & Unwin, 1978. Pp. 197. $26.50, cloth; $11.50, paper. *JEL 79–0330*

This book is a collection of essays on the valuation of social cost. After two general chapters, authors summarize the state of the art with respect to particular areas—noise nuisance and air pollution (Pearce), recreational land use (R. K. Turner), human life (G. Mooney), and social relevance (J. Stanley and A. Rattray). Finally, R. Lecomber considers the various attempts that have been made to adapt national accounts to take account of social costs. Together the essays provide a clear and concise account of where we stand with respect to evaluating social cost. All in all it seems that we have not got very far: it is worth considering why this is so.

The question of evaluating social costs raises difficult issues at a number of levels of analysis. Two questions have logical priority. First, the question of *why* measure social cost; secondly, that of the meaning of social cost—in particular the question of *values*, or whose weights are to be adopted in defining "social" costs. The introductory chapter provides a good answer to the first question: a system that neglects social costs and benefits will persistently overinvest in things that produce goods and services that are valued by the market and will make excessive use of non-marketed costs—such as pollutants, *etc.* As technology develops, non-market effects appear to be increasing in importance, thus increasing the significance of evaluating social costs. But the second question is much more difficult to answer—the chapter by C. A. Nash considers it explicitly and finds no satisfactory answer. Social costs and benefits are differently valued according to whose values are adopted, and therefore the weights adopted by evaluators; differences in values may arise from differences in income levels, in tastes, and in interests. Thus, for example, a poor rural farm laborer may evaluate the disbenefits of nitrate pollution differently from a rich urban consumer.

In principle there is no correct answer to the question of values and weights, and consequently no uniquely correct concept of social costs. This problem underlies all the particular studies. While this is true of social costs, it is of course also true of market costs and benefits: the market adopts the weights given by incomes and purchasing power. Many social cost evaluations try to use the same weights (*e.g.*, valuing noise nuisance by change in house values; life by the present value of human capital). If the idea of the exercise is to extend the principle of the market to the unevaluated externalities, then it would seem logical to use similar weighting principles. But this means that the same noise nuisance may be considered much less significant, in terms of costs imposed, if it affects 10,000 poor squatters in Calcutta who have no houses and therefore suffer no loss in house value, than if it affects one aristocrat, the value of whose estate may be halved. Similarly, on the human capital approach to the evaluation of human life the value of the lives of the unemployed (possibly those very same squatters) especially if they fall into the unemployable category may be zero (or even on some assumptions negative), whereas the value of the lives of the employed are positive and vary positively with their income level. While logic may favor this approach, there does seem something very odd about claiming that it represents any sort of *social* evaluation, with the implicit connotation of social responsibility for the poor, the unhoused, and the unemployed. Yet if, in response to this type of argument, some other principle of evaluation is adopted, not only is there the difficult question of how to justify the particular principle adopted, but also an inconsistency arises between market and social cost evaluation, which

may lead to new problems of resource allocation: in social-cost evaluation the views, *e.g.,* of the poor, will be given far more weight than in the market evaluation of resource allocation. This inconsistency does no more than reflect an existing inconsistency between the way in which many democratic societies make political decisions (roughly one man one vote) and the way they make economic decisions (one dollar one vote).

There is little discussion of this fundamental problem in the chapters on particular topics, despite the fact that a solution to it is necessary to guide the evaluation. With some exceptions, most methods adopt a consumer sovereignty/market value approach. Assuming the fundamental value question has been settled, there remain three further issues: one is identification of the sort of factual questions that need to be answered to provide an input into social evaluation. The measurement of social cost is a relatively new area; it is apparent that in some areas we are still only beginning to identify what we need to know, or how to pose the questions—this is most apparent in the chapter on social severance (dislocation costs, pecuniary and psychological) which in the end more-or-less gives up and argues that economics *can* only deal with part of the costs of severing human ties; secondly, having established the questions the next step (which it turns out was in some cases taken first through a familiar quirk of research sequences) is to find the answers. Here it turns out that there are enormous areas of ignorance. On every subject there is a dearth of scientific, social, and economic information. Thirdly, when the facts have been produced, it is necessary to turn them into values (in some cases the method adopted does this automatically—*e.g.*, with house values—but in more cases the facts are in terms of specific consequences such as illnesses caused, or tooth decay, deoxygenization, *etc, etc.*)

It is clear that we are very far from having definitive answers to these questions in any of the areas covered. The book thus provides an agenda for research rather than a summary of the answers. It provides a good starting point for anyone interested in a quick review of the work that has been done, as well as a pointer to new research needs. The large area of ignorance in this field does *not* justify doing nothing about externalities. It underlines the essentially arbitrary nature of much measurement; and it helps justify what might otherwise seem the rather clumsy instruments that governments use—of bans and regulations, rather than discriminating sensitive taxes, incentives, and social cost benefit analysis.

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Economic theory and the core. By LESTER G. TELSER. Chicago: University of Chicago Press, 1978. Pp. xix, 407. $36.00.
JEL 79–0334

It is not often that important new work in economic theory appears first in book form. The proliferation of specialty journals, which encourages quick publication of concise reports, militates against comprehensive discussions of interrelated problems. Lester Telser's *Economic Theory and the Core* is thus doubly unusual, being a book and a work of originality.

Telser's earlier, *Competition, Collusion and Game Theory* [1, 1972] broached a number of issues that are fully explored in this 1978 volume. Specifically, Telser had recognized the fact that the core of an n-person game has attributes that transcended its usual treatment as an alternative characterization of the competitive equilibrium in many-trader general equilibrium models. Telser had, for example, used the core to rehabilitate the Bohm-Bawerk "marginal-pairs" approach to the construction of supply and demand curves in a partial equilibrium setting.

Just as general equilibrium theorists by the late 1960's were exploiting the core as an economic concept to rewrite the theory of exchange, Telser was trying to construct "small numbers of traders" models to define the role of contractual freedom in the determination of market outcomes. It is this program, initiated in the 1972 book, which attains a fullness in the book under review.

The basic idea of the core is easy to state. Consider a market with m traders with initial holdings of n commodities. The traders have smooth preferences over the various possible bundles (n-vectors in R^n_+). They wish to make

themselves better off through trade, subject to a constraint that only feasible trades, which are reallocations of existing goods, are permitted. With m traders there are $2^m - 1$ possible coalitions. Under freedom of contract, so that all potential coalitions could form and exchange goods, and a recontract provision, so that only equilibrium trades are contractually binding, the final allocation is defined by an iterative process: (1) consider all feasible allocations; (2) eliminate all those allocations that any two-person coalition could improve upon; (3) eliminate from the remaining allocations all those that any three-person coalition could improve upon; *etc.* Those allocations that remain are undominated (feasible and more desirable) for any coalition or group of traders: they are called *core* allocations.

Core allocations are thus equilibrium allocations in the sense that freedom to contract leads the traders precisely to the core. Each coalition restricts the range of possible final allocations. Consequently the more traders there are, the more constraints core allocations must satisfy, so the final outcome set is smaller. With too many agents, the core might not even exist.

Chapter 1 of *Economic Theory and the Core* examines externalities, public goods, and free riders. It is well-known that, in a variety of externality and public goods problems, market mechanisms cannot easily achieve a competitive allocation. Phrasing these problems using core theory, however, leads to a variety of refinements involving beneficial externalities and honest and dishonest free riders. The standard problems can be decomposed into subproblems, some of which indeed have nonempty cores, and thus for which a competitive equilibrium could be achieved.

Chapter 2, on natural monopoly and monopsony, follows Coase and emphasizes cost conditions. A typical result is that "if the buyers are in competition, no stable equilibrium [core] is possible unless all the plants are under the control of a single firm" (p. 65). In cases where the core does *not* exist, restrictions on allowable coalitions between or among buyers and sellers may remove some constraints and allow the core to exist: "Prohibitions on which coalitions can form confer valuable property rights on the favored players, since their presence is necessary for the success of the legal coalitions" (p. 85).

Chapter 3 applies core theory to location, capital theory, and Viner industries. In many standard examples, the underlying game theoretic model has an empty core. Consequently "restrictions on which coalitions may form often come in the form of an assignment of property rights" (p. 89). Zoning laws, legal institutions, and forward contracting all seem to be devices that restrict coalition formation and thus engender core outcomes.

Chapter 4 is a formal analysis of continuous game models. Standard results about the core and essential games are established, together with some new theorems on kind characteristic functions, deficits of n-person games, convexity, *etc.*

Chapters 5 and 6 provide theoretical and empirical studies of storage and flexible prices. The expected present values of the trader's characteristic function defines a security level. Some imputations satisfy the emergent core constraints: "The theory furnishes the ex post supply schedule which relates the quantity offered to a reservation price such that the expected change in the price equals the marginal cost of storage. In this way the market equilibrium determines both the price and the inventory" (p. 176).

The empirical chapter 6 examines "whether short-run changes in inventory holdings tend to stabilize prices" (p. 214). This question can be approached via a related question involving the effects of skillful traders. If such traders exist, their activity should insure that "errors" between expected and actual prices, and between actual and planned stocks, will behave like a sequence of the identically and independently distributed (i.i.d.) random variables, and the "errors" should be inversely related. The statistical tests appear well-designed and the results lend credence to the "skillful trader" model, which was developed from the core constraints examined in chapter 5.

Chapters 7, 8, and 9 are concerned with price distributions in markets. From the core theorist's perspective, existence of a common unit price in a competitive market should be a theorem, not an assumption. The argument

of chapter 7 is extremely delicate, depending on the charming but infrequently applied "geometry of numbers." The main result is that "when the number of traders is below a certain critical level, the linkages among the submarkets are too weak and sparse to give rise to a common unit price" (p. 292). Chapter 8 extends the analysis to costly information, search, and learning. The true stochastic nature of the problem emerges, and the results lead naturally to chapter 9, "Empirical Studies of Price Distributions." Telser there suggests that, if his price data on retail gasoline, canned and frozen juices, and grocery market baskets represent equilibrium price distributions, then "we may conclude that the marginal cost of search itself is small for these items" (p. 349).

A final chapter 10, on transferable utility, money, convexity, and related matters, studies the efficiency of core allocations and the existence of constant unit prices which support core allocations.

Economic Theory and the Core thus stands somewhere between a technical monograph and a treatise in the older style. It is not merely an extended journal article, nor does it attempt a comprehensive review and integration of all matters related to the core of a market economy. The usual material on the core that is presented in general equilibrium theory is, for example, omitted in Telser's book.

Instead Telser provides a new conceptual framework, which can lead economists to deeper insights into old problems, and to fresh insights into problems that were heretofore badly posed. The game theoretic tools are not to be used only by the mathematically sophisticated. Telser's two-chapter study of storage and flexible prices and his three-chapter study of market price distributions are exciting pieces of applied economics: institutions, theory, data, econometric tests, and much good judgement all have a role to play in the analysis. Telser teaches here by example, showing that the new modes of reasoning do not stand apart from the real economic problems we wish, as economists, to understand.

I hope *Economic Theory and the Core* will have many readers beyond those who normally peruse new works of a theoretical nature. The originality of the work, guided by Telser's unifying vision of economic processes, repays study.

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REFERENCE

1. Telser, Lester G. *Competition, collusion and game theory.* Chicago: Aldine Atherton, 1972.

Microfoundations: The compatibility of microeconomics and macroeconomics. By E. Roy Weintraub. Cambridge Surveys of Economic Literature. Cambridge; New York and Melbourne: Cambridge University Press, 1979. Pp. viii, 175. $19.95, cloth; $6.95, paper. *JEL 79–0335*

This is an expanded version of the author's survey article "Microfoundations of Macroeconomics," which was published in this journal in 1977 [10]. Though expanded, it is still a survey. The structure of the article is closely followed. There are the same two main parts; the first surveying developments up to about 1960, the second distinguishing trends that are held to have emerged since that date. The latter are classified in the same way as in the article—Walrasian and "Edgeworthian," equilibrium and disequilibrium types of each. The expansion is mainly a matter of fuller exposition. There were parts of the article that were little more than annotated bibliography. The more extended summaries, here provided, are very welcome.

Since the book remains a survey, it sets a problem to the reviewer. How does one survey a survey? Some might do it in a microscopic manner, looking for "errors and omissions"; but my own knowledge of the literature is so inferior to Professor Weintraub's that that route is closed to me. It is fortunate that the survey does throw up some general issues, which I may be competent to discuss.

It is convenient to begin from the pedagogic problem, which is where (I think) Weintraub himself starts. The student goes to "micro" lectures on Mondays and to "macro" lectures on Thursdays; and they just don't fit. Why don't they fit? Not because the Monday lectures were concerned with the firm and the individual, the Thursday lectures with the whole

economy, as the micro–macro distinction apparently implies. If that were all, there would be no problem. The trouble is that the approach is different, the Monday lectures being in some sense classical, the Thursday lectures being Keynesian.

So there are two lines of division, not one; is it not part of the trouble that they have got superimposed? Once they are separated, we should have four sets of lectures, not two: macro-classical on Tuesdays, micro-Keynesian on Wednesdays, as well as the two that were already being given. Would these help to build a bridge?

Macro-classical is easy to recognize; it has a great tradition, going back, at least, to Ricardo. It is rather surprising that Weintraub has so little to say about it. For it is by no means a "degenerating research programme"; it is still quite alive. For suitable purposes, the study of the causes of long-term economic growth, or of differences in the wealth of different countries, we still want to use it. It would have helped if it had been brought in.

Micro-Keynesian is more surprising; is it an empty box? Why should it be? There is of course no question that the *General Theory* [8, 1936] itself is macro; but when one sets it beside the classical macro, one sees that it cannot be its macro-ness that distinguishes it from the latter. It must be something else. It must be marked off by a line that cuts across the micro–macro distinction. So it should have a place in micro.

It has not been easy to find it. A great part of the work that is described by Weintraub can be looked on as a hunt after it. One can distinguish in that story several stages—as he does, though I myself would arrange them rather differently.

There was a first stage, which I can follow him in associating with my own *Value and Capital* [2, 1939], when one thought that one could draw the line as *statics* against *dynamics*, in the simple sense in which those terms were used in that book. *Statics* out of time; in *dynamics* all quantities dated. When I got into my *dynamics*, I did, at least sometimes, find myself moving in what seemed to be Keynesian country; that was the reason why I ventured to claim that I had built the bridge (in the passage from my introduction, which Weintraub quotes). It was the analogy between my case of unity-elastic expectations and Keynes's wage-theorem that I think I had mainly in mind. But I ought certainly to have recognized that there was a good deal of my *dynamics* that was not at all Keynesian; it was nearer in spirit to the very "classical" Austrians than it was to Keynes.

The book as a whole however was Walrasian. *Static* theory, as presented was, in the Walras sense, general equilibrium theory; my *dynamics* was an endeavor to push general equilibrium forward into that other field.

The further history of that endeavor, culminating in the "neoclassical synthesis," which has become so fashionable, is narrated in some detail by Weintraub. It was partly a matter of the refinement of the static foundations; but more important, in the present context, was the colonization of more and more of the *dynamic* territory by "classical" (if Walrasian was classical) methods. At the height of its success, the colonization seemed to be complete; "Keynes" had been pushed right over the edge. The quarry of the hunt had just disappeared.

Weintraub, I am glad to find, does not think that it had disappeared; there are two places in his book where he begins to catch sight of it.

One is in his discussion of what he calls "Chapter 12 Keynesianism"—the famous chapter on long-term expectation, which he rightly perceives has to be read in the light of Keynes's work on probability. I have myself, fairly recently, gone on record[1] in saying that I think this chapter to be "rather wicked"; and I do not withdraw that statement, though I have since done some work on probability,[2] which has enabled me to understand Keynes's standpoint better. My present view is that Keynes was entirely right in emphasizing that there is an element in economic judgments about the future that is not reducible to mathematics; but I still think he was wrong in making it so irrational. It can be quite rational, so that it can be influenced by policy, without being expressible in terms of a probability calculus. This is important, but it is not so important as Weintraub's other point.

[1] *Economic Perspectives* [6, 1977, p. 126].

[2] *Causality in Economics* [7, 1979, chap. 8].

This emerges towards the end of his book, when he comes to "Edgeworthian disequilibrium." His "Edgeworthians" are those who seek to go beyond the admittedly artificial structure of the Walrasian market, with its price-takers and its auctioneer; and so to consider market forms more generally. The beginning is from isolated exchange between two parties, with a *core* of equilibrium bargains, as Edgeworth effectively showed nearly a century ago.[3] The introduction of additional parties, as Edgeworth also showed, narrows the core. The extension to many commodities, made by more modern writers, does not seem to introduce any new principle, so far as the determination of an equilibrium is concerned.

Where things become more interesting is when the question is faced: how is such an equilibrium to be reached, or even approximated? One must not assume "transparency," everybody knowing everything about everybody; they must just find out, more or less, what they need to find out. It is reassuring to find that when such questions are posed, even in the rarified way that is favored by the writers in whose work Weintraub is interested, they lead to results, such as the need for intermediaries and the need for a money as unit of account, which to more pedestrian thinkers[4] are not unfamiliar. One can welcome their appearance, at the end of the book, as an indication that at last the quarry is coming into sight.

To my mind, however, there are still some things missing. "Edgeworthian disequilibrium" is still conceived as a problem of exchange; it has not yet taken on a temporal color, so it is not yet in the *Value and Capital* sense *dynamic*. What about borrowing and lending, in a non-transparent market? What therefore about credit? I have come to believe that one of the main divides, between *classical* theory and (shall one say?) *meta-classical*—for Keynes's is only one version of the meta-classical theory we ought to be contemplating—is just here. The market economy, in practice, is a credit economy; so it depends upon trust, between man and man. There are numerous ways which have been invented for diminishing that dependence; but it cannot be eliminated. Among the faceless individuals who populate our pure models there is no place for it; but the market economy cannot exist, as anything more than a random sequence of bargains, without it.

It is not only to the capital market that this applies. For consider, from this angle, the difficult Keynesian doctrine of equilibrium with unemployment. If equilibrium is to be taken to be a continuing condition, the unemployed must be kept alive; there are various ways in which they may be kept alive, and we should distinguish them. There is the modern way, of unemployment "benefit"; but if this is assumed, it should be made explicit. There is the "disguised unemployment" when labor is sent back to the farms. But there is also the way that was so sadly common in the great cities of the nineteenth (and early twentieth) century, when the "unemployed" picked up a living by casual labor. It is quite instructive to take this last case as a standard case, from which the others are treated as variants. Employment then means *regular* employment, such that employer and worker expect their relation to have some continuance; there is that degree of confidence between them. If this confidence is to be maintained, wages, in the regular sector, must be rather rigid; they cannot swing about with "demand and supply" for labor. So when effective demand improves, more labor is drawn into the regular sector. When it diminishes, there is more "unemployment"; and it could happen that as a consequence the wage that can be got by casual labor will fall—though it is not very easy to see what the mechanism is that will bring this about. It will certainly take a great fall in wages in the casual sector for that to be able to compete at all effectively with the regular sector; there will surely be quite a long "short run" over which it is fair to assume that this does not happen much. So here again, once the element of confidence is emphasized, we find ourselves moving in the direction of Keynes.

It will now be apparent what I think should go into those Wednesday lectures. Monetary institutions, certainly; but also a look at other markets, labor markets, and product markets to see how they really work, and can work.

[3] *Mathematical Psychics* [1, 1881].

[4] My own work on the matter is in *Critical Essays* [4, 1967, chap. 1] and in *Theory of Economic History* [5, 1969, chaps. 3 and 5].

Not in the same way in all times and places; so it will widen the mind to turn to some of the older economists,[5] to see how they thought that markets worked, in their time.

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REFERENCES

1. EDGEWORTH, FRANCIS Y. *Mathematical psychics: An essay on the application of mathematics to the moral sciences.* London: Kegan Paul, 1881.
2. HICKS, JOHN. *Value and capital.* Oxford: Oxford University Press, Clarendon Press, 1939.
3. ——. *Capital and growth.* New York and Oxford: Oxford University Press, 1965.
4. ——. *Critical essays in monetary theory.* Oxford: Oxford University Press, Clarendon Press, 1967.
5. ——. *A theory of economic history.* Oxford: Oxford University Press, Clarendon Press, 1969.
6. ——. *Economic perspectives: Further essays on money and growth.* Oxford: Oxford University Press, Clarendon Press, 1977.
7. ——. *Causality in economics.* New York: Basic Books, 1979, forthcoming.
8. KEYNES, JOHN MAYNARD. *The general theory of employment, interest and money.* London: Macmillan, 1936.
9. THORNTON, HENRY. *An enquiry into the nature and effects of the paper credit of Great Britain.* London: J. Hatchard, 1802.
10. WEINTRAUB, E. ROY. "The Microfoundations of Macroeconomics: A Critical Survey," *J. Econ. Lit.*, March 1977, *15*(1), pp. 1–23.

030 HISTORY OF ECONOMIC THOUGHT; METHODOLOGY

The economics of Vilfredo Pareto. By R. CIRILLO. Preface by F. OULÈS. London and Totowa, N.J.: Frank Cass, 1979. Pp. ix, 148. $22.50. *JEL 79–0337*

This slim volume is an attempt, in the words of its author, to cover "all or most of Pareto's main contributions to economics" (p. 4). In addition, Professor Cirillo declares his intention to assess the value of "Pareto's ideas" to contemporary economic thought, to determine what remains of Pareto's "original ideas," and to sketch what later economists have added to Pareto's "pioneering efforts" (p. 4). An ambitious project indeed.

Following that very brief introduction, chapter 2 presents a sketch of Pareto's life plus a preliminary description of the four items that the author considers to be Pareto's major contributions, *viz.*, "a novel approach to utility theory, a reformulation of general economic equilibrium theory, . . . laying the foundations of modern welfare economics . . . , [and] pioneering work in the field of income distribution" (p. 20).

The third chapter is concerned with Pareto's methodology, especially his efforts to establish economics as a positive science by "the elimination, as much as possible, of normative judgments from economic theory . . ." (p. 30). Cirillo correctly points out that in Pareto's scheme the subjective judgments involved in choosing principles and assumptions are methodological rather than normative judgments. Then he asserts that Pareto unintentionally separated his economics from his sociology, the former being limited to the analysis of *logical* actions, while the latter encompassed only the *non-logical*, with "no real bridge between them" (p. 32). He further declares that Pareto's applied economics does not add to the knowledge provided by his pure theory (p. 31), presumably because value judgments were ruled out of the applied work as well as the pure theory. Both of these last two statements may well provoke objections. The rest of the chapter, almost half in fact, is, for reasons that escape this reviewer, devoted to what Cirillo calls the "Second" School of Lausanne, that of Firmin Oulès and his followers, a group that appears to regard Pareto's work as considerably less than admirable.

Chapter 4 presents a brief account of Pareto's famous optimum and his original version of the mis-named Edgeworth Box. There is also included a review of the unsuccessful attempts by later welfare theorists to refine that optimum but still stay within economics proper.

[5] I have myself gotten particular help from Henry Thornton (*Paper Credit* [9, 1802])—see my essay on Thornton in *Critical Essays* [4, 1967]; and (*pace* Weintraub) from Marshall—see chapter 5 in my *Capital and Growth* [3, 1965].

The chapter ends with Cirillo's suggestion that Pareto knew all along the restrictive nature of his optimum but introduced it "precisely in order to make economists conscious of the limitations of their science" (p. 58).

The "Law" of Income Distribution is the subject of chapter 5, the longest chapter in the book. It includes a fairly detailed exposition of this justly famous econometric work, together with some of the criticisms that have been leveled against it. Here Cirillo's obvious admiration for Pareto's achievements clashes badly with his equally obvious disapproval of Pareto's generally liberal outlook and distrust of socialists and other redistributionists. This same mixture of admiration and disapproval appears throughout the book. There are some minor flaws in the quotations from the *Cours* [1, 1896–97]. Word four, line two, on page 86 should be *decreases* instead of *increases*. Pareto himself pointed that out in the *Manuel* [2, 1971, VII, § 24]. And the equations on page 87 have serious typographical errors. Reference to the *Cours* will enable the reader to correct them easily enough.

Chapter 6 (four pages) and 7 (eighteen) deal with utility theory and general equilibrium theory. The reader is provided some excerpts from the *Cours* and the *Manuel* and given a brief resumé of Pareto's indifference curve approach, which dispensed with standard utility; his expansion and refinement of Walras' general equilibrium; and some notes on his production and marginal productivity theories. Again it is hard to understand the labored inclusion of various criticisms, especially those made by the aforementioned "Second" Lausanne School, which criticisms seem to be not nearly as concerned with economic theory as with Pareto's social preferences.

Chapter 8 reviews Pareto's "minor" contributions, his approach to capital, rent, the theory of the firm, monopoly, money, economic crises and fluctuations, international trade, and collectivism. It is entirely too short for a satisfactory treatment and consequently this chapter contains a number of statements that overgeneralize to the point of giving the reader an erroneous impression. For example, we are told that Pareto's "Type III phenomena" had to do with public utilities (p. 121). Not so. "Type III corresponds to the collectivist organization of society" [2, 1971, III, § 49]. Again, ". . . he moved away from advocating free trade to arguing in favor of protectionism" (p. 126) is clearly an exaggeration. On page 127: "This is . . . as far as he would go in extolling the inherent advantages of a socialist economy." Pareto never "extolled" a socialist economy nor did he give the slightest reason to believe he considered it to have inherent advantages. Rather, wrote Pareto, "pure economics does not give us a truly decisive criterion for choosing . . ." among types of social organizations [2, 1971, VI, § 61].

The brief conclusion offered in the four-page last chapter is that Pareto made few truly original contributions but must be given great credit for improving and popularizing the theory of general equilibrium and pointing the way to progress in its use. Furthermore, Pareto rightly insisted on the importance of factors other than economic in dealing with social problems. Most of all, he served as a tremendous inspiration to later scholars.

Eleven pages of useful bibliographical references to works both by and about Pareto complete the book.

I hope that this little book will whet the appetite of the reader sufficiently to bring about what the author recommends—an increased reading of Pareto's own words. Cirillo's book should provide a useful guide.

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REFERENCES

1. PARETO, VILFREDO. *Cours d'economie politique professé à l'Université de Lausanne.* Lausanne: F. Rouge; Paris: Pichen, 1896–97.
2. ———. *Manual of political economy.* Translation of *Manuel d'économie politique* (1909) by ANN S. SCHWIER. New York: Kelly, 1971.

The shadow of Keynes: Understanding Keynes, Cambridge and Keynesian economics. By ELIZABETH S. JOHNSON AND HARRY G. JOHNSON. Chicago: University of Chicago Press, 1978. Pp. xiv, 253. $10.00.

JEL 79–0338

The last five or six years have witnessed a veritable flood of books on Keynes and the Keynesian Revolution, ranging from Leijon-

hufvud-like reinterpretations of Keynes's theoretical ideas to personal reminiscences of Keynes as a man. Such books as Don Patinkin, *Keynes' Monetary Thought: A Study of Its Development* [6, 1976] and Hyman P. Minsky, *John Maynard Keynes* [3, 1975] clearly lie at one end of this spectrum but others, such as *After Keynes*, edited by Joan Robinson [8, 1973]; *Keynes: Aspects of the Man and His Work*, edited by Donald E. Moggridge [5, 1974]; *Essays on John Maynard Keynes*, edited by Milo Keynes [2, 1975]; Donald E. Moggridge, *Keynes* [4, 1976]; *Keynes, Cambridge, and the General Theory*, edited by Don Patinkin and J. Clark Leith [7, 1978]; and *The End of the Keynesian Era*, edited by Robert J. Skidelsky [9, 1977], combine exegesis and biography in almost equal proportions. The present work by Mrs. Johnson, the editor of four volumes of *The Collected Writings of John Maynard Keynes* [1, 1971–78], and the late Harry Johnson follows the latter pattern: there are five perceptive essays by Mrs. Johnson on Keynes the man, one joint paper on the social intellectual background of *The General Theory*, and twelve essays by Harry Johnson on the Cambridge academic environment, on the nature of the Keynesian Revolution, and the lasting influence of Keynes on British economic thinking. Most of these essays have appeared before (only three are new); three or four are very slight pieces; but at least four (chaps. 6, 7, 14, and 15) are major statements that deserve reprinting and rereading.

Harry Johnson's views on the Keynesian Revolution are well-known: it need never have happened because the Great Depression was due to monetary mismanagement, both national and international, and not to any inherent deficiency of capitalism requiring a revolutionary new theory to explain it; the orthodox neoclassical tradition of monetary theory was perfectly capable both of accounting for the monetary collapse and of prescribing appropriate remedies for it if only contemporary economists had applied "the tools of their trade" (pp. 204–10). Whether this is an adequate description of the causes of the Great Depression and of the state of economic science in the 1930's remains an open and controversial question: Johnson does no more than state a daring hypothesis that others may refute or confirm.

Many will find the acrimony towards living British post-Keynesians that Harry Johnson increasingly displayed in his later years hard to take: what begins as fair criticism turns imperceptibly into sheer bitchiness. It is almost as if he were reproducing in print the exact flavor of the oral tradition of Cambridge economics in the 1930's (and not only the 1930's!). American readers may find chapters 7 and 10 on "Cambridge in the Early 1930s" and "Cambridge in the 1950s" hard to believe. Let me assure them that it errs, if anything, on the side of understatement.

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References

1. Keynes, John Maynard. *The collected writings of John Maynard Keynes*, Volumes 15–18. Edited by Elizabeth Johnson. London: MacMillan; New York: St. Martin's Press for the Royal Economic Society, 1971–78.
2. Keynes, Milo, ed. *Essays on John Maynard Keynes*. London and New York: Cambridge University Press, 1975.
3. Minsky, Hyman, P. *John Maynard Keynes*. New York: Columbia University Press, 1975.
4. Moggridge, Donald E. *John Maynard Keynes*. New York: Penguin Books, 1976.
5. ———, ed. *Keynes: Aspects of the man and his works: The first Keynes Seminar held at the University of Kent at Canterbury, 1972*. New York: St. Martin's Press, 1974.
6. Patinkin, Don. *Keynes' monetary thought: A study of its development*. Durham, N.C.: Duke University Press, 1976.
7. ——— and Leith, J. Clark, eds. *Keynes, Cambridge, and the "General Theory": The process of criticism and discussion connected with the development of the "General Theory."* Buffalo: University of Toronto Press, 1978.
8. Robinson, Joan, ed. *After Keynes*. Oxford: Blackwell, 1973.
9. Skidelsky, Robert J., ed. *The end of the Keynesian era*. New York: Holmes & Meier, 1977.

Methodology of economics and other social sciences. By Fritz Machlup. Economic The-

ory, Econometrics, and Mathematical Economics series. New York and London: Harcourt Brace Jovanovich, Academic Press, 1978. Pp. xiv, 567. $25.00. *JEL 79-0038*

Many years ago I had the privilege of attending some seminar sessions on methodology conducted by Fritz Machlup at the Johns Hopkins University. While our professional training has been different (in my case it is philosophy), my own research interests have increasingly been directed to foundational problems in economic theory, and in particular, decision theory and utility theory. My first encounter with Machlup was, then, not my last: one cannot work in the area of the methodology of economics and the other social sciences without taking into account the impressive contributions that he has made in this area, most of which are conveniently collected together in the volume under consideration. But there was something very special about that first encounter, for there is no substitute for Machlup in person, particularly there in the setting of old Gilman Hall, all of whose offices and seminar rooms were directly adjacent to the Hopkins library. Machlup himself has written of the intellectual and educational experience at Hopkins as close to *ideal*: it remains only to say that it was so in very large part because of scholars and teachers like Machlup.

Methodology of Economics and Other Social Sciences is a very rich collection of essays. That most of them are reprinted detracts not at all from the importance of the volume. Not only does it make Machlup's important contributions more accessible, but it serves to make evident just how undated his work has proved to be, and to reveal the systematic relatedness of some of his major preoccupations: the role of theory and theoretical constructs, the Weberian notion of "subjective interpretation," the concept of "ideal types," and the distinction between positive and normative. Included are two new essays written for this volume, and a translation of a long article on the concept of ideal types, originally written and published in German. In what follows I shall concentrate for the most part on these new, or newly accessible, pieces.

The most substantial and ambitious of the new essays constitutes chapter 1, and is titled, "What is Meant by Methodology: A Selective Survey of the Literature." I can imagine this delivered with great effectiveness by Machlup in person, on the opening day of a seminar on methodology: a kind of teaser, filled with promisory notes to be made good as the semester progresses. It functions in a somewhat analogous fashion here, as a kind of frame piece for the volume as a whole, but in my judgment it is not entirely successful. The style is a bit too informal, and its review of major thinkers too brief and fragmented. More seriously, and quite curiously, it suffers from a defect in *method*. Machlup explicitly chooses to limit himself to commenting upon those who have employed the term "methodology" in their works. This leaves out, quite arbitrarily, some very important contributions, such as Mill's *Logic*, and Hume's *Treatise*. Machlup owns up to this, but he must not be let off the hook so easily. I say this quite deliberately, in hopes of pricking his conscience, lest he retire from writing before giving us his insights concerning Mill and Hume, not to mention René Descartes, Pierre Duhem, Jules Poincaré, and many more. The final section of this opening essay is quite different: it is a tight and analytical characterization of the nature of methodological inquiry. I can find fault only with Machlup's sliding too quickly through the question of whether methodology is itself positive or normative. Machlup contents himself with remarking that (pp. 55–56):

> methodology is neither a study of "good methods" nor a study of "methods used," but rather a study of the reasons behind the principles on the basis of which various types of propositions are accepted or rejected as part of the body of ordered knowledge in general or of any special discipline.

Perhaps a distinction from his essay, "Positive and Normative Economics" (also reprinted in this volume) will prove useful. In that essay Machlup takes up Keynes's trichotomous distinction between inquiries concerning "what is," "what ought to be," and "what you can do to attain what you want." The third kind of inquiry is termed "instrumental." Perhaps Machlup would want to insist that part of what is involved in methodology is purely "normative," but my sense is that he regards the aim or objective of science as the attaining of im-

partial and systematic knowledge, and the task of methodology as one of assessing the extent to which various proposed methods contribute to the realization of this objective. All of this, I suggest, would go a long way towards accounting for what is so impressive and distinctive about his own contributions: his open-mindedness about method; his insistence that different types of inquiry and different subject matters call for different methods; his empirical-pragmatic orientation, with its insistence that proposed methods be given a chance to "prove" themselves, and not be dismissed *a priori;* and his intolerance only for those who would persuasively define science and scientific method to fit their own predelictions and obsessions.

The two other new essays in this volume form chapters 8 and 9 and focus on a familiar preoccupation of Machlup's: the Weberian notion of "ideal types." Chapter 8 was written for this volume; chapter 9 contains the translation of a lengthy piece of his surveying the concept of ideal types as it appears in the works of Karl Menger, Wilhelm Wundt, Wilhelm Dilthey, Wilhelm Windelband, Heinrich Rickert, Georg Simmel, Max Weber, and a score of other writers. These essays take one to the heart of Machlup's view of the nature of science, both in respect to what is common to all science and what distinguishes the social sciences from the natural sciences. If they treat themes already familiar to students of Machlup's work, they serve admirably to amplify his analytical and critical contributions (*cf.* chapter 8) and his contributions to the history of ideas (*cf.* chapter 9). Central to both essays is the following (pp. 214–15):

> The logic of conceptualization requires two sets of distinctions, of which the first holds for all empirical sciences, while the second relates to a difference between natural and social sciences. The first distinction . . . relates to the separation of the empirical and theoretical domains for which concepts are designed. The two domains cultivate different concepts: *Operational* (empirical, epistemic) concepts, defined by observational, experimental, or statistical operations, are needed for empirical propositions [correlational laws]. *Exact* (abstract, pure) constructs, formed by idealization, invention, and construction, are needed for nomological-theoretical propositions [theoretical laws].
>
> The second difference is based on methodological characteristics separating the sciences of human culture and society from the sciences of nature, inorganic and organic. . . . Exact constructs in the physical sciences . . . can be defined without any reference to any person, living or dead, real or imaginary. In contradistinction, idealized constructs (ideal types) . . . relating to the social world . . . cannot be formed or used without explicit or implicit reference to meanings meant by persons real, imagined, or imaginary.

I must confess that I find what Machlup has to say with regard to the first of this pair of distinctions much more incisive. Despite the clarity with which he separates the two pairs, in the passage quoted above, I find that he tends on occasion to blur the distinction, with the result that telling arguments in support of the indispensible role of theoretical constructs in science in general are allowed to lend unwarranted support to the notion of the indispensability of the method of "subjective interpretation" in the social sciences. This is not to say that the latter thesis cannot be defended. Elsewhere Machlup has defended this thesis, and in a manner that is impressive by comparison with the stock-in-trade arguments to be found in, *e.g.*, sociology. By focusing on the role of such constructs in economics, he has shown how they can be introduced without any sacrifice in rigor and precision. Perhaps this all just testifies to the one forgivable sense in which Machlup's work is now dated: thanks to his analyses, we no longer find the issue of the role of human intentions (and, more generally, meanings) quite so vexing and problematic as many used to think.

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040 ECONOMIC HISTORY

The trading world of Asia and the English East India Company: 1660–1760. By K. N. CHAUDHURI. Cambridge; New York and Melbourne: Cambridge University Press, 1978. Pp. xviii, 628. $84.50. *JEL 79–0049*

The names of the great East India trading companies of England and Holland are inextricably linked in our minds with the enormous

expansion of international trade in the seventeenth and eighteenth centuries. These chartered companies, with monopolies in their home markets, considerable naval resources, and almost unlimited ambitions, had important roles in shaping their national economies (and to some extent the economy of all of Western Europe) and in determining the patterns of colonial conquest in South and Southeast Asia. The role of the English East India Company (the EIC) in the growth of the English economy and the British Empire can scarcely be exaggerated. Its trade brought the goods that we identify with a changing standard of consumption—cotton and silk textiles, coffee, tea, and china. Some of the earliest modern industries in England developed to fill the demand in markets opened up by the EIC's imports of cotton textiles and procelain. And the servants of the EIC conquered and for a century governed "the brightest jewel in the crown of the British Empire."

K. N. Chaudhuri has produced a major new study of the EIC and the Asian environs of its trade, covering the crucial century when the expansion of that trade was most rapid and when the territorial conquest of India began. From 1660 forward, fairly complete records of the Company's trade have survived. A number of scholars have made use of these records to write about various aspects of the Company and its trade, but none has approached these records intending to tell as comprehensive a story as Professor Chaudhuri. By examining the invoice of every ship that sailed to and from Asia, he has reconstructed the trade of the Company to produce series on total exports and imports, as well as breakdowns of these totals by commodity and Asian source. While the book has a relatively limited number of tables, the remaining 200 plus are available from Professor Chaudhuri in microform. But the book goes far beyond this invaluable collection of statistics to consider the organization of the EIC, its markets in Europe (where it bought and sold goods, raised capital, and purchased *treasure* to export to Asia), and its markets in Asia.

Because of the distance at which it traded and the slowness of both transport and communication, the EIC's directors had to cope with some formidable organizational problems. Between the time that a ship was loaded with goods and treasure in London and its officers entrusted with orders for goods to be carried on the return trip and the time that ship actually sailed back up the Thames, a minimum of eighteen months elapsed. There was no possibility its voyage would be profitable (to most of Asia) unless there was an agent waiting for it in Asia to keep its turn-around time short by arranging to dispose of its outward bound cargo and purchase its return cargo. But because Asian markets for many of the goods wanted for the return voyage to England were either thin and/or highly competitive, procurement of a vessel's return cargo had to be undertaken, in many cases, months before the ship left Europe. Inevitably, the goods ordered from Asia and those shipped from Asia did not correspond perfectly. The EIC sought to minimize these problems by establishing factories (trading centers *cum* warehouses) at various sites in Asia. These factories were charged with converting the treasure sent out into acceptable local currencies (a larger problem than it may seem), selling the goods sent from Europe, and purchasing (frequently after placing orders for manufacture) goods for shipment to Europe. They were necessarily given a fair measure of autonomy to respond to local conditions, but the directors in London worked continuously to devise a set of rules that would limit their discretionary powers—the directors sometimes sent orders for goods with the quantity desired conditioned upon price, for instance. Realizing that "possession of information was the same as the possession of effective power" (p. 76), the directors sought to use information from one factory to check the activity of another and to limit the direct flow of information among the factories.

In addition to providing the general schema of the EIC's organization and working, Professor Chaudhuri presents a wealth of detail that fleshes out that frame in his chapters on the trade of particular commodities. Of these highly informative chapters, the best are perhaps those on the organization of the trade and production of Indian textiles. Much of the information of the EIC's contracts with merchants and those of merchants with weavers is entirely new and considerably enriches our understanding of the structure of the Indian

economy, at least for regions where textiles were produced. His chapters on the trade in pepper, indigo, saltpeter, raw silk, coffee, tea, and porcelain all deserve close attention, not only for the information they provide on these particular commodities, but also for what they reveal about the decision-making processes of this famous venture.

Good as Professor Chaudhuri's book is, it is not without flaws. The most serious, to my mind, is the author's failure to make better use of his research on the Company's correspondence to give greater depth to his analysis of its organization and running. Much of the information is there in the book, but it is left to the reader to put it together. Second, and far less serious, the author's inability to avoid pretentious jargon (like "third-degree polynomial trend" for "three-year moving-average" [p. 86]) can make what should be a fascinating account almost unbearably tedious to read.

But the flaws are minor compared to the strengths. This is a book for those people interested in English economic history and the growth of international trade as much if not more than it is a book for South Asia specialists. It merits a wide audience.

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World accumulation, 1492–1789. By ANDRE GUNDER FRANK. New York: Monthly Review Press, 1978. Pp. 303. $16.50.

JEL 79–0053

Professor Gunder Frank (now at the University of East Anglia) is known for two related theses, which he has applied particularly to Latin American relations with Western Europe and the United States during and after long residence in Chile. One thesis is that the lag in "peripheral" development behind "central" development, or rather the development of peripheral underdevelopment, should be ascribed to the operations of a capitalist system whenever the *center* is fundamentally capitalist. It makes little or no difference how feudal or pre-capitalist the periphery itself might be; whatever was wrong with, say, ante-bellum Alabama, was the fault of capitalism because New York and London were capitalist, however firmly slavery might have been established in Alabama itself. Gunder Frank's other thesis has been that development of the center not only involves, but *requires* the *underdevelopment* of the previously *undeveloped* periphery. This is because development has *depended* upon resources exploited or resources stolen from the periphery. At the same time the periphery becomes increasingly *dependent* upon the center for certain crucial "modern" resources, including technology and "know-how." Hence the label *dependency* (*dependencia*) theory with pejorative implications for capitalism.

The slightest admixture of force or fraud—not to mention pillage, piracy, the slave trade, or the spoils of war—suffices to invalidate our textbook presumption that trade benefits all trading parties. Further as to warfare, little vulgarization seems required to reinterpret Nietzsche's "a good war justifies any cause" to include within "goodness" such specifications as short duration, a victorious outcome, and a favorable benefit–cost ratio. For the centuries of "exploration and discovery," dynastic warfare, and merchantilist trade policy, the *prima facie* case for Marx's famous verdict about capitalism's original capital coming on the world scene from Western Europe "dripping from head to foot, from every pore, with blood and dirt" is highly plausible, and all shame to all those who swept the facts under the rug for Marx to rediscover. But at the same time, Robinson Crusoe–type accumulation and *Poor Richard's Almanack* type accumulation are more than fairy tales. It is, I think, a one-sided mistake to attempt (with Pandit Nehru) the great leap forward from the incontrovertible evidence that Bengal was looted by the East India Company to the conclusion that the Industrial Revolution was financed by the loot of Bengal.

As between Marxian and "Richardian" (*not* Ricardian!) versions of economic history, the decision seems to me incurably factual, historical, and (alas) even quantitative. Both "dripping blood and dirt from every pore" and "early to bed and early to rise" actually happened. Which was the more important, or rather, what were the relative weights of the two in explaining the rise of industrial capitalism? My biases remain close to Gunder Frank's, which are also Marx's and Nehru's, but I cannot stop hoping for the conclusive evidence that he has not provided. Multiplication of horror

stories is a poor substitute, except to show that the Latin American ones were not *sui generis*.

Since Gunder Frank knows more about the economic history of 25 or 50 countries than I do about any, it gives me unholy pleasure to point out a couple of factual *gaffes*. On page 17, he accuses Tokugawa Japan of expelling 10 million inhabitants in 1603. This would have been more than ⅓ of the country's population, and one wonders where they might have gone; surely a decimal point must have slipped somewhere! And on page 95, he has Sir Walter Raleigh landing in Roanoke, Virginia, rather than Roanoke Island, North Carolina. Since the metropolis of Virginian Appalachia is several hundred miles from the ocean, let us invite Gunder Frank to commune with Shakespeare (and Raleigh) on "the seacoast of Bohemia."

Returning to more serious matters: Later volumes of Gunder Frank's projected *Überwälzung* of world economic history face two major problems. It is in the first place easier to show the exploitative nature of war and mercantilism than of peace and free trade. He must therefore combine or transcend for the later period theories of the persistence of primordial advantages and disadvantages (in the face of the Japanese—and British—records), theories of the vital importance of "market imperfections" and departures from "pure and perfect competition," and of the inconsistencies (contradictions?) between developed countries' protestations of free trade and their practices *vis-à-vis* low-wage developing countries. (If he proposes to demonstrate the exploitative nature of free-trade theory *itself*, he will have still more trouble, although of course he can always assert it "irregardless," like many others before him.) Also, I think, Gunder Frank would do well to include in his summary another attempt to relate his conclusions to his evidence more intimately than is done in chapter 7 of the volume under review.

After some 15 or 20 years in the United States, Gunder Frank was banned from re-entry into this country. This was nearly 20 years ago, and may have heightened a certain anti-*Yanqui* bias occasionally detectable in some of his works. Academic considerations of academic freedom lead me to suggest—whatever the merits of his original banishment may have been—that it is time for amnesty, since economic history and development theory would both profit from his presence here, whether as a temporary visitor or a resident lay missionary of *dependencia* theory.

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Eisenbahnen und deutsches Wirtschaftswachstum 1840–1879. By RAINER FREMDLING. Untersuchungen zur Wirtschafts-, Sozial- und Technikgeschichte, Band 2. Dortmund: Gesellschaft fuer westfaelische Wirtschaftsgeschichte, 1975. Pp. xviii, 217. *JEL 79-0351*

Wirtschaftswachstum und Bevoelkerungsentwicklung in Preussen 1816 bis 1914. By GERD HOHORST. Dissertations in European Economic History. New York: Arno Press, 1977. Pp. xi, 467. $32.00. *JEL 79-0919*

Industrialisierung und Qualitaet der Arbeit: eine Bildungsoekonomische Untersuchung fuer das 19. Jahrhundert. By HERMANN VON LAER. Dissertations in European Economic History. New York: Arno Press, 1977. Pp. x, 470. $32.00. *JEL 79-0920*

Die Wachstumszyklen der deutschen Wirtschaft von 1840 bis 1880. By REINHARD SPREE. Schriften zur Wirtschafts- und Sozialgeschichte, Band 29. Berlin: Duncker & Humblot, 1977. Pp. xxx, 577. DM 60.00. *JEL 79-0359*

Cliometricians differentiate their own putatively neoclassical pedigree from that of ordinary economic historians; the latter's intellectual paternity is attributed to the German Historical School. However the quantitative approach to economic history did not appear first in mid-twentieth century America; a century ago, for example, the social saving from railroads was calculated using counterfactual assumptions by Ernst Engel, the German statistician [1, 1880]. But Engel did not determine the direction of German economic history, and even if he had, twentieth century Germany's self-inflicted hemorrhage of talent doubtless would have necessitated major transfusions of ideas and methodologies. A decade ago, Richard Tilly's critical review article [10, 1969] documented the need for rejuvenation. The books under review are recent dissertations—in the second and third cases, in unrevised form—

by quantitatively-oriented German scholars. Do they indicate the reestablishment of cliometrics in Germany?

Each author deals with an aspect of growth in nineteenth-century Germany. Spree and Fremdling limit themselves to the four decades from 1840 to 1880 and cover Germany as a whole. The former seeks to pin down the timing and amplitude of the fluctuations in aggregative and sectoral growth during this period of industrialization and to develop conjectures (*Vermutungen*) regarding the intersectoral relationships and the mechanism generating overall cyclical behavior. A key question, to which he devotes a chapter, concerns the determinants of railroad investment (hereafter RRI) and the disequilibrating effects of fluctuations in RRI on the rest of the economy. With emphasis on the character of the railroad as infrastructure, this question is also one of those examined by Fremdling. In addition, Fremdling attempts to quantify the importance of railway development for German industrialization, and he explores the role of governments in fostering or hindering that development. Hohorst's and von Laer's monographs cover the century from Waterloo to World War I. Hohorst deals with demographic development and industrialization in Prussia, in its provinces, and in Kreis Hagen, a Prussian county on the southeastern fringe of the Ruhr. In his own words, his work is "heterogeneous"; three important questions nevertheless: Can Franklin Mendels's [8, 1972] proto-industrialization model explain demographic development in the pre-Imperial era? Can infant mortality and a cost-benefit model of reproductive behavior clarify the unprecedented fall in birth rates after 1880? Can a counterpart to this demographic "structural break" be found in an earlier aggregative or regional "take-off" of the economy? For Germany as a whole, von Laer considers the development of the supply of human capital and the growth in the demand for it—particularly in the textile and the machine tool industries. The comparison of human capital inputs in these industries focuses on establishing the nature of sectoral variations and the ways in which these were met. Von Laer also examines in detail and confirms the important role of the state in promoting the accumulation of skills and knowledge.

These historical questions are clearly amenable to application of cliometry. The quantitative orientation is equally clear. Major effort has been directed to the assembly, "cleaning," and manipulation of statistics. Spree presents over 300 tables and diagrams; a statistical appendix comprises a third of his tome. In many cases his series extend Walther Hoffmann's [4, 1965] backward in time to cover the important decade of the 1840's, a reconstruction that is documented in detail and at first glance overwhelmingly impressive. Data appendices account for about a fifth of Hohorst's book; many tables present synthesized data or correlation results however. In addition to basic demographic statistics, the 170 tables and graphs include data on farm animal populations, land use, employment, occupations, and rye and iron product prices. Fremdling and von Laer have been less ambitious: appendices are shorter and each book contains only sixty-odd tables and diagrams. For selected years, von Laer's include curricula and numbers of students in various types of educational institutions, and data with respect to the textile and machine tool industries on output, capital, employment, the founding dates of enterprises, their founders, sizes, wages, and work forces (broken down by sex, age, and social origin). Fremdling's tables provide annual data on key economic aspects of railway operation and construction: output; expenditures; profits; dividends; passenger and freight traffic, receipts, tariffs; trackage; equipment; capital stock; investment; employment; wages; and employment income.

Everyone processing data recognizes the inevitability of errors both in the often interpretive aspect of historical reconstruction and in the handling of the resulting values. Equally apparent is the necessity for descriptive clarity and precision if tabulations are to be useful for others. In this respect, Fremdling is a model, though reasonable estimates of other authors may somewhat differ. Two minor complaints: Hoffmann's aggregate values for investment and capital stock are employed despite replacement of his estimates for the railroad sector; and territorial changes are clearly indicated, but "before and after" figures revealing their importance are absent. With von Laer, occasionally insufficient docu-

mentation creates uncertainty regarding the precise meaning of particular data. Moreover, there are inconsistencies among tables (*e.g.*, 49 and 50) and incorrect calculations (*e.g.*, in Table 53). Hohorst is least satisfactory in this regard. True, he handles a mass of disparate data, but explanations of his procedures are convoluted. And other lapses are unsettling: signs inexplicably reversed in some tables (*e.g.*, pp. 264, 267, 268), samples modified without precise documentation (footnote, p. 260), annual growth rates calculated as arithmetic rather than geometric averages (Table 8 and p. 154), and minimal attention given to the influence of territorial changes in the nineteenth century.

The magnitude of Spree's undertaking precludes a thorough review of his reliability in handling and presenting data. Massive documentation reveals his attempt to achieve comprehensiveness and consistency in 265 time series. His judgements regarding data quality are valuable, as are his warnings that some series may adequately reflect fluctuations, but not absolute magnitudes. But there are unexpected pitfalls. Adjustment for territorial changes is somewhat hit or miss (*e.g.*, for acquisition of Alsace-Lorraine, series A49, A96, A98, but not A208, A210–213; for expansion of Prussia, A61, A132, A192–196, but not A62–65; for changes in the Zollverein and from Zollverein to Empire, no adjustments) and, in one case (A49), inaccurately described. And assumptions regarding backward extension of one series of particular concern to the reviewer (A47, value added in the transport sector in 1850 prices) are inconsistent with the resulting figures and with sources cited in more recent work (*e.g.*, in Paul Huber [6, 1978]). These relatively minor weaknesses, however, do not fundamentally detract from a major statistical accomplishment.

Traditionally, "Germanic" scholarship abounds with references and interminably dissects preceding studies. The references are there, an average of 400 per book, but disquisitions on earlier work are mercifully short. Instead relevant theory is reviewed. Fremdling concentrates on the concept of a leading sector in an unbalanced growth process. Hohorst and Spree both dedicate a sixth of their text to theoretical discussion: the former reviews Malthusianism and other theories of economic-demographic interaction, while the latter examines business cycle theory, appearing ultimately to choose Jan Tinbergen [11, 1939], the NBER [9, Geoffrey Moore, 1961], and R. C. O. Matthews [7, 1954] as his intellectual gurus. Von Laer regards his thesis as an attempt to criticize human capital theory and to apply it to economic history.

If the first hallmark of the "new economic history" is quantification and the second the application of theory; the third is the testing of hypotheses on the basis of explicit models derived from that theory. With variations, these books measure up in the first two respects, but fall short on the third. Some nontestable explicit models are presented. For example, regression is imaginatively used by Fremdling and Hohorst to synthesize missing data, the former recreating aggregate estimates of railway output on the basis of data on output and receipts for a limited number of companies, the latter retrodicting per capita income for Prussia and its provinces over the nineteenth century on the basis of cross-sectional 1907 data on incomes, population and sheep densities, and farm animals per capita. Non-regression models are used by Spree, Fremdling, and von Laer in the calculation respectively of the reference business cycle, total factor productivity in railroad operation and its rate of change, and human capital in the textile and machine tool industries. However, only Hohorst tests an explicit model: a modification of Mendels's model applied to Kreis Hagen is found inadequate. Here and elsewhere cliometry suffers from methodological flaws.

Econometric tools are overtaxed and sometimes misused; failure to derive explicit models causes misspecification; and specific individual weaknesses are manifest. Aside from two or three *Chi*-square tests and one scarcely mentioned table with multiple regression results in Hohorst, visual comparison of graphs and simple correlation are the only methods used to examine statistical relationships. Some correlations (improperly) test hypothesized causal relationships; most do not. Hohorst, for example, reports hundreds of correlations involving varying simple lags; Spree also fishes avidly for simple lagged associations. The possibilities of distributed lags, significant results arising from

type I errors (5 percent), or covariance among multiple exogenous variables are generally ignored. Spurious correlation from time trend affects some of von Laer's results, is avoided through use of annual growth rates (and hence some misspecification) by Hohorst and Fremdling, and is substantially reduced—though not eliminated—by Spree, who expressly considers the question and correlates deviations from estimated quadratic time trends.

Spree disclaims the intention to test or set up explicit models, referring instead to "verification of hypotheses" (pp. 64, 297, 304). Fremdling argues that it suffices to operationalize explicit questions appropriately (p. 1). But this methodological modesty leads to improper attribution of causation and to misspecifications of theoretically derived relationships. As an example, Spree tests the accelerator principle using velocity not acceleration of output (p. 309). Notable among other econometric weaknesses are von Laer's non-disclosure of the rates of interest and depreciation used in calculating human capital and his incorrect separation of factor availability and consumption.

Hohorst concludes that available models fail to explain the fertility drop at the end of the century. Other findings directly depend on his estimates of per capita income and agricultural employment: Rostovian structural breaks and shifting regional leadership characterized the economic development in Prussia (p. 352); the evidence reveals increasing interregional divergence and hence unvarying regional leadership, but no indication of a "take-off" in Prussia or Hagen (p. 356). In less confusion, he rejects conventional beliefs regarding agricultural employment at the beginning of the nineteenth century (80 percent) in favor of estimates one-third lower.

Von Laer's key results relate to differentiation in the formation and employment of human capital: significant and increasing differences in qualification levels in the textile and machine tool sectors, and complex relationships between schooling and productive skills, which derive from the prevalence of on-the-job training and the existence of aristocratic education as a consumption good. Rejecting schooling expenditures as a measure of educational investment, he urges the necessity of disaggregation. He also finds that the Industrial Revolution did not generally reduce the labor force's qualification level. These findings do not depend on cliometry; some skepticism is appropriate regarding those that do: namely, that the market for human capital was competitive and that technical progress in the textile industry was entirely embodied in human capital.

Despite general congruence, Spree's and Fremdling's results regarding railroad development diverge on significant details. Both regard the railroad as *the* leading sector in German industrialization and emphasize close linkages between RRI and growth of the iron, coal, and machinery industries. Fremdling's tentative attribution of 38 percent of aggregate growth in the 1840's to RRI is justly criticized by Spree, who nevertheless finds that the first potential boom in Germany's heavy industry was aborted after 1846 by the drop in RRI and monetary and political disturbances. Indeed, on the basis of lagged correlations, Spree generally perceives RRI fluctuations as determining cyclical patterns in heavy industry, the monetary sector, and the non-agricultural economy. But this involves some circular reasoning: Spree's measure of RRI embodies a lag of two to three years chosen to maximize positive correlation to iron consumption, while Fremdling's examination (p. 158) of the records of 34 railway companies reveals that on average, partial operation commenced only 19 months after construction—which presumably began with roadbed, not laying of rails. This implies a nine-month lag in RRI or less. (Incidentally, Fremdling's correlation of physical and financial RRI reveals no lag.) Fremdling and Spree both find significant correlations between prospective profits and RRI (but with different lags); Fremdling concludes that RRI was demand-induced—mainly by passenger traffic—thus supporting Albert O. Hirschman's development theory. But Spree continues to regard RRI as mainly autonomous, finding timing and extent of RRI financing independent of the mood of the stock market. Two further conclusions of Fremdling: technical progress in railroading generated one-third of output growth from 1849 to 1873; German governments delayed RRI before mid-century, but interstate competition may subsequently have stimulated it.

What are Spree's other results? First, he identifies four aggregative cycles with lower

and upper turning points in 1844, 1848, 1859, 1865, and 1879, and in 1847, 1856, 1865, and 1873 respectively. The modest amplitude of the first short cycle exceeds that of the 1860's, which—contrary to the conventional wisdom—contains no crisis. Again, the boom ending 1873 is found no larger than that of the 1850's, although the following downswing was more protracted. Secondly, on a disaggregated basis, two cyclical patterns in addition to the aggregative reference cycle are apparent: an agricultural cycle and a consumer industries cycle. Heavy industry, transport, the monetary sector, and much of international trade exhibit the reference pattern, thus suggesting a far more significant influence of industry and investment on the economy than their shares in GDP would warrant.

What do these books say about the state of cliometrics in Germany? Judged as scholarly contributions and as quantitative economic history, Fremdling and Spree must receive high marks. The former's effort is a competent treatment of German railroad development comparable to the works of Albert Fishlow [2, 1965] and Robert Fogel [3, 1964]. Spree may have been overambitious; nevertheless, his study is the most painstaking and detailed attempt extant to examine the fluctuations in the German economy in the course of industrialization. As dissertations, Hohorst's and von Laer's books display originality and an appropriate level of scholarly accomplishment; as published works, they are flawed. The latter's volume is transparently organized, clearly if somewhat immaturely written, but econometrically feeble; it is best regarded as a decent contribution to the "old economic history." Hohorst is clearly inspired by cliometry and uses econometrics imaginatively if not always soundly. But his organization and his presentation are regrettably confused and deficient. His book should have been revised before publication. If books such as these and Carl-Ludwig Holtfrerich's [5, 1973] are representative, cliometrics has taken root in Germany, and with encouragement may flourish.

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REFERENCES

1. ENGEL, ERNST. *Das Zeitalter des Dampfes in technisch-statistischer Beleuchtung.* Berlin: Verlag des koeniglichen statistischen Bureaus, 1880.
2. FISHLOW, ALBERT. *American railroads and the transformation of the ante-bellum economy.* Cambridge: Harvard University Press, 1965.
3. FOGEL, ROBERT W. *Railroads and American economic growth.* Baltimore: Johns Hopkins Press, 1964.
4. HOFFMANN, WALTHER G.; GÜLICHER, HERBERT AND JOKSCH, H. C. *Das Wachstum der deutschen Wirtschaft seit der Mitte des 19. Jahrhunderts.* Berlin: Springer Verlag, 1965.
5. HOLTFRERICH, CARL-LUDWIG. *Quantitative Wirtschaftsgeschichte des Ruhrkohlenbergbaus im 19. Jahrhundert.* Dortmund: Gesellschaft fuer Westfaelische Wirtschaftsgeschichte, 1973.
6. HUBER, PAUL B. *Die deutsche Eisenbahnentwicklung: Wegweiser fuer eine zukuenftige Fernschnellbahn?* Cologne: D F V L R, 1978.
7. MATTHEWS, R. C. O. *A study in trade cycle history.* Cambridge: Cambridge University Press, 1954.
8. MENDELS, FRANKLIN F. "Proto-Industrialization: The First Phase of the Industrialization Process," *J. Econ. Hist.*, March 1972, *32*(1), pp. 241–61.
9. MOORE, GEOFFREY H., ed. *Business cycle indicators.* Princeton, N.J.: Princeton University Press, 1961.
10. TILLY, RICHARD H. "Soll und Haben: Recent German Economic History and the Problem of Economic Development," *J. Econ. Hist.*, June 1969, *29*(2), pp. 298–319.
11. TINBERGEN, JAN. *Statistical testing of business cycle theories.* Vol. 1: *A method and its application to investment activity.* Geneva: League of Nations, 1939.

An economic history of modern Spain. By JOSEPH HARRISON. New York: Holmes & Meier, 1978. Pp. xi, 187. $22.00.

JEL 79–0354

This is the second survey of Spanish economic history to appear in English in recent years, the first one being a translation of the pioneering but already dated book by Jaime Vicens Vives. Vicens Vives's book was published in 1960 [3], and since then a consider-

able amount of research has been carried out, especially on the modern period. Harrison's book, therefore, is opportune, since it provides a synthesis of the more up-to-date literature, most of it in Spanish and thereby inaccessible to non-specialists. The two books combined can provide the English-speaking reader with a fair survey of Spanish economic history from antiquity to the post-Franco years.

Harrison's approach is almost strictly chronological, more so than it probably needed to be. It starts with a chapter on "The Economy of the *Ancien Régime*," which is a survey of the eighteenth century; it then surveys population and agriculture in the nineteenth. The third chapter studies government policies, banks, railroads, and industry in mid-nineteenth century. The fourth chapter covers the first stirrings of industrialization, from 1875 to 1914. The fifth chapter deals with the period from 1915 to 1930. Then comes a chapter on the development of organized labor in the late nineteenth and early twentieth centuries. The seventh chapter covers the 1930's (the Republic and the civil war), and the eighth and last chapter surveys the Franco era, with a one-page section on "the Spanish economy after the Franco era." This means that except for the second and sixth chapters on agriculture and labor, all the others pick up the narrative where the preceding one left it, in straight sequence. While the subjects of the topical chapters are no doubt well chosen, I missed a wider discussion of fields, such as the role of the state, the role of foreign trade and investment, capital formation, and the evolution of other macroeconomic variables. The book has a useful bibliographical essay, but no conclusions, neither in the individual chapters nor at the end.

This description suggests the strengths and the weaknesses of this work. Its main merit lies in that it is a thorough and compact survey of the research carried out by Spanish and non-Spanish economic and social historians in the last 20 years. Its main weakness is that it is little more than that. It contains hardly any original analysis; on occasion, Harrison just gives us an abbreviated translation of his authorities on a given topic. And, as Phyllis Deane [1, 1970] wrote of Landes's *Unbound Prometheus* [2, 1969], but more justifiably in this case, this is "a historian's economic history." In fact, as Harrison's research on business and politics in early twentieth-century Spain shows, he is more interested in economic sociology and in the history of interest and pressure groups than in economic history in the strict sense of retrospective economics, and this approach is clearly demonstrated throughout the work under review. The best part of the book is the one dealing precisely with Harrison's own field of specialization, *i.e.*, the political hagglings of business groups and the hesitations of the government after Spain's defeat in the Spanish-American War and the loss of Cuba, Puerto Rico, and the Philippines.

The role of the state deserves wider treatment because the economic history of Spain shows an unmitigated succession of mercantilistic practices from the late middle ages until today. In spite of Adam Smith's strictures on Spanish mercantilism, and his influence on a handful of Spanish economists from very early on, state intervention has remained a fact of Spanish economic life to our day. This is obvious from Harrison's book; but nowhere can one find in it a systematic discussion, however brief, of the long-term effects of this constant intervention. One of the preferred fields of state action was and is, of course, foreign trade; however, foreign trade seems to have developed at a lively pace at least from the mid-nineteenth century, when yearly statistics become available. Foreign capital is also known to have played a leading role in industrialization and railroad building, as Harrison himself shows. Nevertheless, no general discussion of the role played by the foreign sector is offered. As to macroeconomic variables, it is true that only monetary statistics are available for the nineteenth century. There are, however, estimates of national income and capital formation for the twentieth century, which might have been, whatever one's doubts about their accuracy, reproduced and commented upon.

These are, it seems to me, serious omissions, which diminish the interest the book may have for economists. However, given the paucity of similar studies in English and the thoroughness of Harrison's scholarship, this book must be welcome to all those interested in the economic history of Spain; at least for the time

being, it will be indispensable for reference and in the classroom.

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REFERENCES

1. DEANE, PHYLLIS. "Review of *Unbound Prometheus,*" *J. Econ. Lit.*, March 1970, *8*(1), pp. 61–62.
2. LANDES, DAVID S. *Unbound Prometheus: Technological change and industrial development in Western Europe from 1750 to the present.* Cambridge and New York: Cambridge University Press, 1969.
3. VINCENS VIVES, JAIME. *An economic history of Spain.* Translated by FRANCES M. LÓPEZ-MORILLAS. Princeton, N.J.: Princeton University Press, [1960] 1969.

One kind of freedom: The economic consequences of emancipation. By ROGER L. RANSOM AND RICHARD SUTCH. New York; London and Melbourne: Cambridge University Press, 1977. pp. xix, 409. $19.95.
JEL 78-0353

Some say they still hear little more in the "new" American economic history than neoclassical paeans to the market and its beneficient workings. Whether meant as an indictment or as an accolade, the observation is of doubtful validity. And here is an important book by two card-carrying cliometricians, which should help further to give it the lie.

One Kind of Freedom represents the culmination of almost a decade of research carried out by Roger Ransom and Richard Sutch as co-directors of the National Science Foundation–supported Southern Economic History Project. It is a model of historical scholarship in the quantitative, theoretically informed genre, and, fittingly, a work of broad scope that addresses two of the great problems in the economic history of this country. The first of these "problems" is the persisting economic subjugation of the mass of black Americans during the half-century following the Emancipation. The second is the degeneration of the postbellum South, particularly the Deep South upon which Ransom and Sutch's work focuses, into the slough of economic backwardness, which the region so clearly had become by the 1920's. Both manifestations of the compatibility of national economic development with gross and obdurate economic inequalities—the one along racial and the other along regional lines—continue to puzzle and worry American economic historians.

It is a tempting challenge, which Ransom and Sutch have accepted, to look for the connections between these two problems. Throughout the period under consideration most black Americans lived and died in the South, and both the region and its black residents were burdened with the legacies of a former social and economic order built upon Negro slavery. Chapter 2 of *One Kind of Freedom* leaves no doubt that slavery provided a poor preparation for economic freedom. The freedmen were thrust into a market environment almost universally without the benefits of literacy, let alone formal educational training; typically without farming skills beyond those of a fieldhand; without artisanal or business skills comparable to those of white urban craftsmen; without property even equivalent to the "freedom dues" formerly granted to European indentured servants.

Rather than dwelling upon the inauspicious initial conditions inherited from the institution of slavery, and rather than asking why the black population's concentration in the South was not quickly ended by a massive exodus of freedmen, Ransom and Sutch suggest that the causes of the region's postwar stagnation and the blacks' persistent poverty lay in the agrarian institutions of the post-emancipation era. They proceed to this by way of a convincing demonstration (in chapter 3) that the Emancipation, in its economic consequences, was neither a cruel hoax nor an empty legalism. It was, instead, a fundamental discontinuity, which affected a substantial redistribution of income and economic welfare in favor of the freedmen, and at the same time exerted an adverse impact upon southern agricultural production that proved more serious and lasting than the effects of the destruction and depletion of physical capital stocks in the Civil War.

The ending of compulsion, and the widespread opposition of the ex-slaves to laboring for wages under the close supervision and controls of the gang system, destroyed the eco-

nomic rationale for the plantation system and its supporting financial and marketing apparatus. The withdrawal of labor services by the freedmen, particularly the labor of women and children, is estimated by Ransom and Sutch to have amounted to a 37 percent reduction in equivalent manhours per capita. This, as the authors maintain in chapter 4, rather than either wartime destruction or supposed economies of scale lost in the breakup of plantations as farming units, was primarily responsible for the failure of agricultural output in the Cotton South quickly to recover to the normal trend level established during the antebellum period. But in the ensuing chapters (5 and 6, on "Agricultural Reconstruction" and "Financial Reconstruction," respectively) it is shown that the plantation and factorage systems were soon replaced by a new set of organizational and financial institutions whose long-term consequences were to prove no less debilitating.

Share tenancy and sharecropping with the crop lien system (under which rural furnishing merchants extended production and consumption credit at usurious interest rates) creating a new form of thralldom for poor whites and blacks alike: "always only 12 months from freedom" was the description given of the southern lien-farmer's pathetic condition by Clarence H. Poe, the editor of the *Progressive Farmer* (1904). This "flawed" institutional structure, which Ransom and Sutch say (p. 198) "effectively operated to keep the black population a landless agricultural labor force, operating tenant farms with a backward and unprogressive technology," is also seen by them (p. 176) as having led to "the failure of the economy to produce the hoped-for era of prosperity."

One Kind of Freedom thus presents a neopopulist diagnosis which—without being openly polemical—disagrees on numerous points with recent, rather more sanguine appraisals of the functioning of market institutions in the postbellum South. Ransom and Sutch see share tenancy as having emerged as a compromise institutional solution to the post-Emancipation conflict between freedmen opposed to wage labor on the old plantations and white planters who were determined to block any significant ownership of the land by their former slaves. Other economic historians, interpreting the historical experience of the South in more conventional neoclassical terms, have sought to depict share tenancy arrangements as nothing but an efficient market adaptation to the problems of risk in cotton production or, alternatively, to the relative scarcity of commercial farming skills among the landless tenants whose activities were made subject to supervision by the landowners. While Ransom and Sutch (pp. 99–103) do resist the proposition that share tenancy had no distorting effects upon the static efficiency of resource allocation, their discussion emphasizes the limitations that supervised (share) tenure placed upon the acquisition of independent farming skills and the disincentives that tenurial insecurity created for investment in farm improvements. It must be said that despite the authors' pathbreaking work in preparing a data base consisting of observations on approximately 11,000 farms in the Cotton South in 1880, the empirical evidence on both sides of these issues remains far from conclusive.

The major developmental pathology that Ransom and Sutch discern, however, is the effect of the merchant-administered crop lien system. In chapter 8, entitled "The Trap of Debt Peonage," they maintain that these financing and marketing arrangements perpetually "locked-in" the individual tenant farmer and the region's economy to a regime of specialized cotton cultivation from which both would have done well (or at least better) to have escaped. On this question, the question of "overproduction of cotton," *One Kind of Freedom* takes issue with those who maintain that the crop-mix in the southern states was responsive to relative price movements (not inextricably "locked-in" to cotton) and that the postbellum shift away from food crops and towards cotton reflected a salutory movement in accord with regional comparative advantage. Curiously enough, Ransom and Sutch do not make much of the standard trade and development theory arguments that show how following short-run comparative advantage may utterly fail to promote long-run economic progress. Instead, they have sought to provide a microeconomic rationalization for the recurring talk about "overproduction" of cotton and the benefits that would flow from greater "self-

sufficiency," which were features of the southern agricultural press during the 1880's and 1890's. The argument advanced is that given the relationship that prevailed between the prices the merchants were charging for corn (and bacon) bought on credit, on the one hand, and the cash farmgate price of cotton, on the other, the rate of transformation between corn and cotton was such that the lien-farmer would actually have been better off growing less of the latter and more of the former than his creditor would permit. This particular piece of analysis (pp. 159–62), however, errs by trying to deal with intertemporal matters in a one-period choice framework. When poverty obliged tenants to borrow in advance of production, the choice they confronted was not one between borrowing corn to raise cotton or producing cotton to buy corn subsequently. The comparison of cash prices of one crop with credit prices of the other is thus inappropriate, and it becomes germane to notice that, at the prevailing cash prices, the cotton-heavy mix of crops that tenant-farmers typically were growing approximated what one would expect if the objective was short-run revenue maximization. It may well have been the case that the indebtedness of tenant farmers constrained some to produce for the market who otherwise would have retreated into self-sufficiency (at the sacrifice of market income); it is equally possible that the merchant-creditor's directives were responsible for the crop-mix planted. But neither of the latter conditions by themselves amount to a *microeconomic* case supporting the claim that cotton was being "overproduced."

However much reassurance may be derived from the foregoing by partisans of the market, Ransom and Sutch's populist sympathies really did not require them to try to prove that the institutions of commercial agriculture in the South were at odds with private profit maximization. And it would be unfortunate if their confusion on this point deflected attention from the more fundamental proposition that is put forward, perhaps too briefly (pp. 190–91), in the last chapter of the book: the unregulated conduct of cotton cultivation by a large number of market-oriented competitors, financed by many, non-cooperating merchants and cotton dealers, meant that the South *in toto* could not exploit its position in the world market for that commodity. Yet, in that market the elasticity of demand with respect to price approximated unity, and therefore it would have been possible for the region to maintain its cotton export earnings while transferring resources to other production activities.

Whether one ultimately accepts or rejects the interpretation advanced in *One Kind of Freedom,* the scholarly virtues displayed throughout the book assure that economic and social historians of the postbellum South will return to it repeatedly, both as a point of departure and as a source of guidance for future quantitative research. It abounds with statistical tables, many of them containing new data mined from the manuscript schedules of the U.S. Census of 1880, from the long-neglected surveys made by the agricultural departments of the states of Georgia and Louisiana during the 1880's and 1890's, from the unpublished credit report ledgers (on the South's mercantile firms) preserved in the achives of Dun and Bradstreet, and from many other primary sources. Moreover, the procedures Ransom and Sutch followed in collecting, evaluating, and analyzing this material are fulsomely and lucidly detailed in some 112 pages of appendixes. There the interested reader readily can follow the authors' methods in constructing income and welfare measures for plantation slaves in 1859 and black sharecroppers in 1879; occupational distributions of southern blacks in 1860, 1870, and 1890; estimates of equivalent manhours worked by the black population under slavery and freedom; figures for the balance of food production and consumption on southern farms in 1880; annual estimates of per capita gross crop production in the five-state Cotton South in 1859 and 1866–1908; and more besides.

Although thoroughly and accessibly documented, the text of *One Kind of Freedom* remains eminently readable. Quotations from southern agricultural journals and newspapers, along with the observations of travellers, enliven the descriptive passages; in the more analytical sections the authors have successfully striven for simplicity and clarity sufficient to make their work available to the non-economist. Formalism is eschewed throughout—but may be found in several of the supporting jour-

nal articles that Ransom and Sutch have published—and the finer points of economic theory, as well as of empirical detail, are pursued in the 56 pages of footnotes that follow the appendices.

To an extent greater than scholar-scientists find it comfortable to acknowledge, the ultimate durability of works of history derives from the possession of a different sort of virtue from those just catalogued. This is the quality shared by enduring art: an elegant economy of vision, the boldness to comprehend enormously complex and diverse experience within the unifying lines of a simple interpretation or explanation. To its credit, *One Kind of Freedom* can be said to have achieved just that sort of artistic coup—ascribing both the subjugation of the freedmen and the stagnation of the Cotton South to the "flaws" in the agrarian institutions of the post-emancipation era. But while this should suffice to guarantee the book a lasting place in the literature, reasonable doubts remain that the institutional defects so neatly identified by Ransom and Sutch's neo-populist interpretation were really of such pivotal significance. Was the welfare of the freedmen so closely tied up with the economic failure or success of the New South? And could the latter have been secured by any institutional remedies—short of those perhaps available to an autonomous authoritarian state patterned along Prussian lines?

The development potential of the South within the U.S. free trade area was not, after all, so very promising during this era. And the structural situation of the rural blacks was far more hopeless than is intimated by a description of their plight in the terms which Southern populists used to lament the condition of the once-independent white yeomanry. So long as the fertility of the rural population remained high, and so long as no significant proportion of the landless rural labor force could be drawn off into nonagricultural employments, and so long as planters received no inducement from the movement of world cotton prices to compete for additional hands, the average black farm family's prospects for substantial income growth would remain dim—regardless of the specific details of agrarian organization and finance. The landowner's pursuit of profit would have been sufficient to reduce cash and share tenants alike to a position equivalent to that of wage laborers in a labor abundant economy—which is what the South had become. Although the workings of the crop lien system, and the alleged abuses perpetrated upon ignorant clients by the rural furnishing merchants, were subjects of prime concern to white landowners and to poor white yeoman farmers, alterations in those arrangements could hardly have transformed the situation of the landless blacks. It was in the interest of the large landowner that his share tenants not be cheated by merchants and receive credit as cheaply as possible—so that the size of the holding sufficient to support the marginal tenant could be made as small as possible. The white yeoman farmer had a similar interest in the question whether or not the furnishing merchant (who financed his participation in market-oriented cotton cultivation) was able to siphon off some rents by exploiting market power. But for the black tenant lien-farmer, would it have mattered very much that the merchants took less from him and left the landlord to take more?

The experience of the antebellum South plainly demonstrated that long-run economic development does not necessarily follow from export-induced prosperity. But it might be thought that a postbellum cotton boom, sparked by an unanticipated upswing in world prices, could have materially improved the lot of the black tenantry. At least it might have allowed some infra-marginal share tenants to pay off their old debts and reduce their need to contract new ones—before the landowners were able to adjust the typical cotton sharecropper's share, or the size of his holding, downwards to sop up the surplus. Something like this actually seems to have occurred during the first decade of the twentieth century, when King Cotton suddenly became once again a benevolent despot; the black community began to participate in the general return of prosperity to the South, even to the extent of making some gains in the acquisition of land.

The hopes engendered by this episode were soon dashed by the collapse of cotton prices in 1914. But the ephemeral character of cotton-boom prosperity is not the only cause for thinking that progressive, upward mobility, starting from the lowest rung of the agricultural ladder, was not a real option open to the

mass of blacks within the white dominated South. Ransom and Sutch themselves comment on the persisting resistance by the white community to the sale of land to blacks, and to the closing off of educational and occupational opportunities by racist-biases in market signalling and screening mechanisms. Still more to the point, they remind their readers that the further disabilities of Jim Crow legislation were imposed upon the members of the black community precisely during the 1900–13 period, when their participation in the wider prosperity began to disturb the equilibrium of Southern race relations. Writing of this epilogue to their story, the authors of *One Kind of Freedom* conclude with the hint that what had really been determining was the impulse to maintain white racial control in the aftermath of slavery (p. 197):

> The economic system that was at last yielding to the pressures of change had done more in its time than stifle economic progress. It had also served the ends of race control. By defining a subordinate position for blacks and by limiting black advancement, the postemancipation economy had served white supremacists by keeping the Negro "in his place."

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100 Economic Growth; Development; Planning; Fluctuations

110 ECONOMIC GROWTH; DEVELOPMENT; AND PLANNING THEORY AND POLICY

Economics of change in less developed countries. By DAVID COLMAN AND FREDERICK NIXSON. New York: Wiley, Halsted Press, 1978. Pp. ix, 309. $25.00. *JEL 79–0372*

This book is difficult to classify. Presumably it is a sort of textbook (but not on the "principles" of economic development, since the authors believe that no general principles exist). The authors explicitly choose to ignore such an important topic as population growth and economic development. And, unusual for texts (or "sort of" texts), they choose to make exhaustive forays into the literature, littering the body of the text throughout, in parentheses, with the names of authors who will mean nothing to the student, and with on-the-one-hand/on-the-other-hand summaries of their writings. Aside from questions treated below with respect to content, it is hard to see how the format of this book can serve well either students or scholars in the field.

The book starts with a fairly good, fairly comprehensive chapter on the concept and measurement of development. There follows a second, extremely weak chapter on theory or theories, built around Harrod-Domar and a few simple extensions but largely ignoring some of the better, tougher, and more comprehensive literature in the field—that by Harvey Leibenstein, Harry Johnson, and W. Arthur Lewis (in particular his planning work, which in effect provides a model for development) to name only three of the obvious persons whose works should have been treated in some way, not to mention other more recent works. No model or models that incorporate different sectors and specifically labor into the analysis are presented. It is possible, for example, to put Lewis's planning model, developed by trial and error in his book on planning, into fairly simple algebra and apply it to both country plans and historical results. This reviewer has done this for Malaysia and found it instructive and insightful in teaching work there. But the authors of this book leave the reader with virtually nothing in the way of a conceptual framework to work with. Only slightly better is a sequel chapter on economic inequality and economic development; in fact the two issues are never really married, at least not theoretically or empirically—an extensive country table is offered on income distribution but nowhere is this compared with rates of growth in, say, per capita income as Hollis Chenery and others have done.

In what seems a strange order to this reviewer, Colman and Nixson then lead us through successive chapters on trade and development, the foreign indebtedness problem, agriculture and the world food problem, industrialization, and then back to the international side with chapters on the "transnational corporation" and development, the transfer of technology problem, and "inflation and migration" (with this reviewer having a little difficulty seeing how these two issues really linked up one with another). Again the basic theory running through these chapters is very weak. By ac-

knowledging some fairly fuzzy criticisms of Bertil Ohlin and comparative advantage, and of factor price equalization, as "important," one gets the impression that the authors are not fully aware of Ohlin's great oversimplifying assumption of identical production functions in all countries.

In spite of containing what to this reviewer seem like fundamental weaknesses in construct and in basic theory and conceptualization of the development process and issues related to this process, this book has some saving graces. The world food problem gets the attention it deserves (although I question whether this can be adequately done without extensive analysis of the population problem), as does the growing foreign indebtedness problem of LDC's, and the pros and cons of transnational corporate investments and related policies in the LDC's. This last is probably the best chapter in the book, most of the main issues being presented lucidly and in an interesting manner. And the authors collect at different points in the book some interesting and useful empirical information to illustrate some of the issues they treat. Indeed, if the authors had made this simply an "issues" book, not tried to get into underlying theory in any fundamental way, treated the literature better, and relegated authors' names and some of the description of their work to footnotes, they would have had a much better and more readable book.

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The nature of mass poverty. By JOHN KENNETH GALBRAITH. Cambridge, Mass., and London: Harvard University Press, 1979. Pp. viii, 150. $8.95. *JEL 79–0373*

This small book is less pretentious, less trendy, and more useful than the standard Galbraithian "big think" of the last 20 years. It invites comparison and contrast not only with unreadable United Nations and International Bank for Reconstruction and Development reports but with such offerings as Michael Harrington's *Vast Majority* [2, 1977] and Michael Lipton's *Why Poor People Stay Poor* [3, 1976]. Economist readers of this journal need neither yawn nor turn up their noses at "the latest Galbraith."

An agricultural economist by formal training, Galbraith remains more acutely aware than most of us that *mass* poverty—as distinct from the "cases" and "islands" of *The Affluent Society* [1, 1958]—remains predominantly rural. The "invisible" villages from which people migrate to visible Calcutta or Soweto slums are indeed even worse than Calcutta or Soweto, much as "rational expectations" lead us to expect. Furthermore, the standard prescriptions of well-intentioned Committees of Experts, Commissars, and Lords or Ladies Bountiful—land reform, farm parity, collectivization, green revolutions, technical education, agricultural credit, family planning, and all that—remain disappointing in practice, if only because potential beneficiaries are too risk-averse to experiment with them. Bengal remains poorer than the Punjab, as Galbraith points out; likewise, Bulgaria remains poorer than East Germany. What has gone wrong so nearly universally? That is Galbraith's problem.

For his solution, Galbraith is constrained to make his peace with such apologetic items of conventional wisdom as the low level equilibrium trap, the backward-bending input supply function, the dual-economy, and even the "culture of poverty." (Particular authors are sometimes cited, but none of the above labels.) Rural folk stay poor, says Galbraith, because most of them "accommodate" to poverty and because the too-small non-accommodating minority leaves for the cities or for foreign parts. The responses to rural poverty should accordingly increase the size of this minority and also increase the number and attractiveness of places for its members to go. After enough of them have left, rural poverty will be largely alleviated, much as it was in rural Sweden, Scotland, and Ireland by large-scale immigration to North America.

To reduce accommodation, Galbraith stresses education of precisely the "general" or even "other-worldly" sort that many development specialists attack for alienating the farmer's son from rural life and pointing him toward the bright lights. To increase migration, Galbraith's hope is predominantly in *urban* development (Lipton's "urban bias") to attract and employ more and better-trained rural migrants than present-day Calcutta or Soweto are already tempting into town. Gal-

braith also praises immigration opportunities, legal and illegal, as his international dimension. He insists that Western Europe's *Gastarbeiter* will never go home again, and that "wetbacks" are nearly as important to Mexico and the United States, respectively, as *Gastarbeiter* to, say, Turkey and West Germany. The point is not made explicitly, but of course urban wage rates and social benefits will be lowered by pressure to absorb migrants, and the chance for restrictive labor organization also reduced, for better or worse.

All this controverts the "small and beautiful" development doctrine, which would bring industry to rural areas as is done in Japan, duly armed with "appropriate technology" to provide simultaneously for rural people jobs, incomes, and access to urban-type public services without the costs and risks and shocks of large-scale migration. (We ignore Khieu San Phang's Utopia of spreading the poverty by forced *urban* depopulation!)

I react along three lines. The first two are obvious, and I hesitate to state them. (1) Galbraith's thesis and current development orthodoxy are not mutually exclusive. At issue is mainly the formula for their combination: how much resources to move industry to the country, how much to train peasants for the city and then move them there? Furthermore (2) the right answer for Country *A* at time t_1 is apt to be wrong for Country *B* and/or time t_2. However (3), as a matter of "redressing balances" and lessening the danger from slogans as thought-substitutes ("Land to the Tiller!" "40 Acres and a Mule!" "Basic Human Needs!"), this welcome Galbraithian retreat from café-society heart-throb economics may be a real contribution at this particular moment and in this particular climate of the discipline (or indiscipline) of "development studies."

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REFERENCES

1. GALBRAITH, JOHN KENNETH. *The affluent society.* Boston: Houghton Mifflin, 1958.
2. HARRINGTON, MICHAEL. *Vast majority: A journey to the world's poor.* New York: Simon and Schuster, 1977.
3. LIPTON, MICHAEL. *Why poor people stay poor: Urban bias in world development.* Cambridge, Mass.: Harvard University Press, 1976.

Rich man's, poor man's, and every man's goods: Aspects of industrialization. By SEEV HIRSCH. Institut für Weltwirtschaft an der Universität Kiel, Kieler Studien, No. 148. Tübingen: J.C.B. Mohr (Paul Siebeck), 1977, Pp. xi, 150. DM42 cloth; DM32 paper.

JEL 78–0369

The book seeks answers to three questions pertaining to industrialization and trade. In the author's words: "Does comparative advantage of different industries change in a systematic fashion as economies become more mature? Which macro or micro economic theories are consistent with observed patterns of industrial distribution of production and trade? What implications for industrialization strategies are suggested by these patterns?" (p. ix). The analysis is carried out by classifying 25 industries into three groups, depending on whether their output elasticity with respect to per capita incomes is positive (Rich Man's Goods), negative (Poor Man's Goods), or zero (Every Man's Goods). Following Hollis B. Chenery, regression equations for a sample of 29 countries are used to establish statistical relationships between output, export, and import patterns, on the one hand, and per capita GNP, population, and capital flows on the other, for these three groups as well as for individual industries. In turn, for each of the 29 countries, export-output ratios are related to skill, physical capital, scale, and resource variables.

As regards the first question stated above, the conclusion is reached that "trade, which in the early stages of industrialization reflects mainly factor scarcities, becomes more compatible. As countries get richer, they tend to trade more with each other and their exchange consists of a growing proportion of similar goods" (p. 105). This conclusion is hardly surprising, nor is it novel. It indicates the predominance of Heckscher-Ohlin trade in lower income countries and what the author calls "Burenstam-Linder" trade for higher income countries.

While the data are used to test the validity of various trade theories, the author has little

to offer as far as "macro or micro economic theories" are concerned. Market power is defined in terms of export shares without regard to product differentiation (p. 28); the theory of the exporting firm is stated without reference to the possibility of price discrimination (pp. 65–68); and, in developing a model of selling know-how, the determinants of the choice between this alternative and foreign direct investment are not considered (pp. 71–75).

Also, the treatment of economies of scale is little more than perfunctory. At one point, the curious statement is made that "in large countries trade accounts for a small share of economic activities. The role of international trade in these countries may therefore be ignored" (p. 2). Elsewhere, it is claimed that "small countries can do little to overcome the negative effects of economies of scale when these economies pertain to the production process" (p. 71). And, finally, "as long as the firm is too small to realize the relationship between the volume of its sales and the price it can charge in the market, exports have no particular attraction for the firm" (p. 115).

The first of these statements fails to consider the advantages of producing for export markets. These are observed even in a country of the size of the United States as far as its technologically sophisticated industries, such as computer and aircraft, are concerned; little needs to be said of the benefits the second (Japan) and the third (Germany) largest industrial countries derive from trade. In turn, the latter two statements disregard the fact that firms and industries in small countries can grow by exporting.

Nor is sufficient consideration given to inter-industry differences in the extent of economies of scale. The author himself does not provide direct estimates to establish these differences, and he disregards the existence of such estimates in proferring policy advice. Thus, the statement that "in the process of industrialization and growth, import substitution 'naturally' precedes export promotion in *every* industry" (p. 117, italics added) would apply only if firms could attain economies of scale in their national markets in all industries. If this is not the case, overly small firms will be built under an import substitution policy that may not permit subsequently entering foreign markets. This conclusion is strengthened if consideration is given to vertical specialization that necessitates the production of parts, components, and accessories at an efficient scale.

Correspondingly, one can hardly advise following the import substitution—export promotion sequence in industries where cost is a decreasing function of production volume and/or vertical specialization is of importance. At the same time, the experience of the Nordic countries, Hong Kong, and, in regard to capital goods, several Far Eastern countries belies the validity of the claim that "only after it has had a successful 'running in' period in the comparatively sheltered environment of the domestic market is the firm ready to face the rigors of international marketing" (p. 115). In turn, there have been a number of instances when creating a high-cost, inefficient industrial structure behind high protection has stood in the way of successful export promotion.

Vertical specialization may also involve the international division of the production process. Despite its growing importance in world trade, this pattern is not considered by the author. Yet, Heckscher-Ohlin trade occurs also in technologically sophisticated industries where labor-intensive parts and components are produced by developing countries, and physical capital and skill intensity parts and components by developed countries.

The root of the problem lies in the crudeness of the industry classification scheme utilized, which leaves one with the puzzle that average export shares in "Rich Man's Goods" remain practically unchanged once the threshold of $300 per capita incomes has been reached. For the same goods, consumption shares show no definite pattern, indicating the production orientation of the classification scheme used (p. 26).

These criticisms notwithstanding, one should welcome the effort made by the author to investigate a variety of trade-related phenomena and to extend the work of other writers who generally have concentrated on a single country. Clearly further investigations are needed.

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General X-efficiency theory and economic development. By Harvey Leibenstein. Economic Development Series. New York; London and Toronto: Oxford University Press, 1978. Pp. x, 189. $7.50, cloth; $3.95, paper.
JEL 79–0077

In *General X-Efficiency Theory and Economic Development*, Harvey Leibenstein provides a concise, well-written account of the application of X-efficiency theory to a handful of standard problems in the theory of economic development. For those who are familiar with Professor Leibenstein's work in the theory of X-efficiency and economic development, the ideas contained in this book will come as no surprise, especially since many of them have already appeared in print.

In chapter 1, Professor Leibenstein eases us into the material of the book by sketching what he feels to be the shortcomings of neoclassical economic theory. His basic point here is that after the Second World War, economists, when they turned their attention to the problems of developing countries, understandably used the only well-developed theory at their disposal, namely the neoclassical microeconomic analysis (Marxists, I'm sure, would take exception here). This analysis, Leibenstein contends, is in many circumstances inappropriate for the task because it is behaviorally not rich enough. To take its place, Professor Leibenstein recommends X-efficiency theory, which is so all-encompassing that he considers neoclassical microeconomic theory simply as a "special case" of it.

Chapter 2 is a quick (21 page) introduction to X-efficiency theory. Being so concise, it suffers from a concentration of new terms that hit the reader at an astonishing rate. For the reader who is totally ignorant of X-efficiency theory, I think the presentation is excessively intense. Most succinctly, the theory is a response to the neoclassical idea that a uniquely defined production function exists which expresses a deterministic relationship between output and the input of capital and labor. X-efficiency theory says that the output that you get from a given combination of capital and labor will depend on a host of psychological factors, which lead the labor employed to put out varying degrees of effort. Consequently, observed output, which deviates from the output predicted by the neoclassical production function, is explainable only on the basis of some mysterious psychological "X" factor—hence, the term "X-efficiency" (or "inefficiency," as the case may be). In other words, you can lead a laborer or a group of laborers to a production function, but you cannot make them cooperate or exert maximum effort. This is true because the amount of effort they exert is a discretionary variable under their control; they may not act "totally rationally" but rather, depending upon their level of "constraint concern" and "pressure," they may "select" a lower level of rationality and effort (an "effort position") and become "inert" at that level.

Now if individuals in an X-efficiency world are less than totally rational and suffer from a behavioral inertia, we would expect a larger role to be played by entrepreneurs, whose existence is eliminated in the frictionless maximizing world of the neoclassical paradigm. Hence, in chapter 3, Leibenstein elaborates upon the new-found place of the entrepreneur in the world of X-efficiency theory.

In chapters 4 through 8 we are presented with a series of standard problems in the field of economic development. Professor Leibenstein tries to demonstrate how what appear to be paradoxes or contradictions for the neoclassical theory can easily be explained by expanding that theory to include elements of X-efficiency. For example, in chapter 4 Professor Leibenstein tackles the question of disguised agricultural unemployment in developing countries. The problem here is that it is posited that the same amount of agricultural output could be produced in developing countries with a smaller agricultural work force. Hence, some of the existing work force is superfluous and could be allocated elsewhere. However, the neoclassical theory contradicts this view. By pointing to the positive wage being paid in that sector, it concludes that the marginal product of the labor employed there must be positive and hence, those workers are not superfluous and if they were removed, output would fall. Professor Leibenstein argues that this seeming contradiction is easily reconcilable, since the differing intensity of effort of the agricultural workers has not been ac-

counted for. According to X-efficiency theory, as workers are withdrawn, the remaining workers could simply exert more effort and work harder (although exactly why they would do this is not convincingly explained). Consequently, Leibenstein argues that one could remove workers from agriculture and still keep output constant without contradicting the fact that under the previously existing effort standards, the marginal product of the then employed work force was positive.

In a similar fashion Professor Leibenstein demonstrates in chapter 5 how equilibrium urban-rural wage differentials can exist (and not be eliminated through migration), and in chapter 6 why actual and potential growth rates can differ in developing economies and how new and improved techniques of production (which would be immediately adopted under the neoclassical scheme) may not be quickly adopted there. Finally, we see X-efficiency theory used in chapter 7 to analyze the phenomenon of declining fertility rates in developing countries and in chapter 8 to throw light on the organization of state-run enterprises.

To evaluate this book is to evaluate X-efficiency theory, since Professor Leibenstein is persistent in his view that this theory is more general than the neoclassical theory he would like to replace with it. It is on this score that I feel he has erred. X-efficiency theory, by its mere name, is a theory that attempts to explain the deviations (and the mysterious X-factors that account for them) that are observed from the results expected from the neoclassical paradigm. Hence, it implicitly (if not explicitly) accepts the neoclassical results as the norm against which such deviations are to be measured and supplies us with an explanation of the psychological frictions of the neoclassical theory. As such, I think it is useful and interesting, especially for our understanding of the development process. As a replacement for neoclassical theory, however, I find it too diffuse and lacking a set of testable hypotheses that do not rely upon the neoclassical theory as a yardstick. Even Professor Leibenstein's notion that agents are less than totally rational is subject to criticism, for his agents, unlike Simon's boundedly rational agents, rationally choose, with full knowledge and full calculating ability, their level of irrationality. Hence, they are simply paying attention to more variables than their neoclassical counterparts, but are otherwise no different from them. In short, one could have no quarrel with Professor Leibenstein's analysis except that it must be viewed in perspective. Finally, a neophyte would be better off to read first Professor Leibenstein's earlier volume, *Beyond Economic Man* [1, 1976]; then he would be in a position to anticipate most of the results derived here. Still, if you like X-efficiency theory, you'll like this book, and if you don't, you won't. It's as simple as that.

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REFERENCES

1. LEIBENSTEIN, HARVEY. *Beyond economic man: A new foundation for microeconomics.* Cambridge, Mass.: Harvard University Press, 1976.

120 COUNTRY STUDIES

A structural econometric model of the Saudi Arabian economy: 1960–1970. By FAISAL SAFOOQ AL-BASHIR. New York: Wiley, Wiley-Interscience, 1977. Pp. x, 134. $16.95. *JEL 77–0958*

Saudi Arabia saw its Gross Domestic Product increase by 194 percent during the period 1960–1970 (1960 to 1974 it increased 1500 percent). Such growth requires understanding not only of where an economy is going, but where it is coming from. This book primarily deals with the latter point. It seeks to quantify and explain the recent macroeconomic history of the Kingdom.

The author, in producing what he avers to be the first published econometric model of Saudi Arabia, has confronted many of the problems familiar to the applied econometrician. Data limitations (availability, frequency, and accuracy) were the most severe; only eleven annual observations (1960–70) were available. The possibility of errors in variables is large. Some data series were generated by applying constant ratios to other time series, *e.g.*, labor force data in transportation and communications were generated by applying constant ratios to the more detailed data on foreign work-

ers. Similar assumptions of constant ratios were applied to obtain data on government construction and private investment in the manufacturing and service sectors. In spite of these data limitations, the painstaking scholarship in seeking solutions is commendable.

The structural model has 25 endogenous variables, 6 identities, 3 depreciation parameters, and 14 pre-determined variables of which 6 are lagged dependent, 6 are contemporaneous exogenous, and 2 are initial capital stocks. Estimation is by ordinary least squares (OLS) and a modified two stage least squares (TSLS) on 6 instruments.

Although the model is linear in parameters and variables, and therefore matrix inversion yields the reduced form, it is instructive to analyze the amount of interdependence of the variables. The model has four blocks. The first block has five equations with no right-hand endogenous variables (determining income of five sectors). This is followed by blocks of seven recursive equations, five simultaneous equations, and finally a block of two recursive equations. Eleven equations have one right-hand endogenous variable and three equations have two. Of the right-hand endogenous variables, six appear in one equation, one in two equations, and three in three equations. The interdependence of the model is minimal, *e.g.*, money supply is determined by an extended monetary base and GNP. Money supply, in turn, determines a wholesale price index. Neither money supply nor wholesale prices affect nor are affected by anything else in the model. This reviewer would like to see a more developed monetary sector and in particular the relations between money supply, money demand, inflation, imports, and government spending.

Structural estimation results were generally very good as measured by R^2, t, and Durbin-Watson; however, many of the series showed strong trends. One gets the impression that other hypotheses could have been consistent with the set of data used, especially since the modified TSLS procedure left only 5 degrees of freedom. Where there was departure from trend, such as in value of agricultural output in 1965 and 1967 and government appropriations for construction investment in 1970 and 1971, the equation missed the mark. Choice of structure based on first differenced variables would have been a more discriminating selection procedure.

The model differs from the "typical" macro econometric models by starting with a supply identity. The Kingdom's gross domestic product is defined as the GDP's of seven sectors—oil, agriculture, wholesale and retail trade, manufacturing, construction, services, and transportation, storage, and communications. This approach has the advantage of highlighting the main source of growth (oil) without requiring a separate export sector; however, it weakens the model for planning purposes by de-emphasizing demand. Two examples of the future importance of demand come from the Kingdom's Development Plan, where a stated objective is import substitution. During the period of this study the country's three cement plants were operating at full capacity, resulting in cement imports. To the extent that relatively more domestic gross investment is in manufacturing rather than in social overhead projects and housing, then changes in the distribution of demand will affect the distribution of GDP in the seven sectors. Second, the new Development Plan calls for a 45 percent increase in manpower from 1.6 to 2.3 million persons. Half a million of this additional requirement will come from abroad, and yet 60 percent of Saudi Arabia's manpower is engaged in the agricultural sector producing only 2 percent of the GDP. As the distribution of manpower changes, so will the distribution of income and consumption. Indeed, one would expect a gradual rise in the country's marginal propensity to consume from the model's estimate and with it a more significant demand sector. Planners should incorporate this sector now.

A separate oil sub-model divides the world into four oil import groups. Proper signs of elasticities of oil imports with respect to price and income are obtained; however, a more optimal grouping of the 50 or so oil importing countries in the sense of homogeneity of various elasticities and minimization of aggregation bias is desirable. In addition, the model would better serve planners if alternative energy sources and suppliers were included so that cross-elasticities (income and price) could be computed. These results could then be used to simulate

the Saudi Arabian economy. The Saudi Arabian oil income was divided between the government and oil companies; however, estimated coefficients from two equations (2.10.1 and 2.14.1) account for only 84 percent of the income. In addition, government revenue is regressed on oil income and lagged government revenue, although the correlation between the two "independent" variables is .97. The model is not suited for policy analysis as it now exists, since five of its six exogenous variables are not policy controlled.

Overall, this book is well done. The author knows the economy of Saudi Arabia and offers many valuable insights into its economic structure. Two especially welcome features of the book are a listing of the data, cross-referenced by equation, and the equations tried but not accepted along with the reasons for their rejection. Clearly there is much room for improvement, but an excellent beginning has been made.

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India: Population, economy, society. By R. H. CASSEN. New York: Holmes & Meier, 1978. Pp. xiii, 419. $29.50. *JEL 79–0382*

The size and growth of the Indian population is a question of more than local interest. The detailed study of the demographic situation in India by Mr. Cassen is therefore a welcome contribution. Despite the availability of data, not much has been written on the interrelationships between population growth and other variables in the process of Indian development. Mr. Cassen's attempt to explain the determinants of population growth in the wider socioeconomic context is perhaps the first such comprehensive exercise. One is, however, left with the feeling that the author has gone in for wide coverage rather than for an in-depth analysis of the interrelationships. His desire "to cover a wide range of topics, satisfy scholarly opinion and be read by the non-specialist" makes it difficult to present a sustained, well-knit thesis. For example, the forays into the history of demographic transition in England, France, Japan, and some developing countries provide valuable insights into this process, but the author could have used these insights in building up his argument instead of cluttering it up with elaborate details. The volume would have gained in cogency and readability if these case studies had been tucked away in an appendix. Similarly, the undeniably useful information on a miscellany of topics is interwoven so loosely with the main thesis that it weakens the thrust of the argument. All this, however, does not detract from the intrinsic value of the author's analysis of the current demographic situation including the nature of recent trends in fertility, mortality, and migration and projections of the future population for which data have been assembled painstakingly.

The essence of historical experience as presented by the author illustrates the varied processes involved in population change and indicates clearly that there is no mechanical relationship between development and fertility. But it does lend some support to the view that the initiation of demographic transition, *i.e.*, deceleration in population growth, depends largely on rising real incomes based on wider and more secure employment. Therefore a strategy of development that benefits the poor will also initiate the demographic transition. Whether the poor can benefit without being in power or whether the powerful will feel sufficiently threatened to act more decisively in favor of the poor is the subject of the author's speculation in the final chapter where he analyzes the future political and social prospects of the Indian society. He is doubtful about the ability of the Indian government to bring about these basic societal changes and underscores the need for an Indian revolution to bring about these orderly changes! How exactly that can or should happen is left "for those who live with these problems" to answer.

In fairness to the author it must be admitted that the area of interrelationships between population and other economic and social variables is very hazy. There are not many well-established and empirically verified relationships. The main argument put forth in the book is that the current rate of population growth in India—although detrimental to the growth of income per head—has not, so far, been responsible for any substantial reduction in the rate of growth of total income. In fact, some positive contribution to total income growth

is attributed to the additional population of the 1950's and 1960's. However, it is also argued that, whereas the economy is not delivering to people the correlates of declining fertility, such as better health, more education, and greater employment, this failure is not due primarily to population growth itself. Mr. Cassen has described in detail how economic development so far has bypassed the poor and thereby also postponed the solution of the population problem. As he puts it: "rapid population growth is not a time-bomb but a treadmill. It postpones the day when most people in India can enjoy an agreeable life." The author believes that employment-oriented policies will alleviate poverty. Generation of employment is viewed by him as the prime economic necessity. Given the limited potential for the creation of urban industrial employment, the author argues the case for employment-oriented rural development. Although it is believed by some that this might reduce the growth of total income, the author's stand is that even if redistributive strategies do reduce the growth of total income, they are likely to have a compensating beneficial effect on the growth of per capita incomes via their impact on fertility.

Mr. Cassen's book concludes with a substantial and exhaustive bibliography drawing upon a vast range of governmental, historical, academic, United Nations, and other sources, reflecting the vast and varied scope of the book. The book will be found very useful by demographers, economists, and students of Indian affairs.

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Botswana: An African growth economy. By PENELOPE HARTLAND-THUNBERG. Westview Special Studies on Africa. Boulder, Colo.; Westview Press, 1978. Pp. xiii, 151. $13.50. *JEL 79–0084*

Penelope Hartland-Thunberg's *Botswana: An African Growth Economy* is the fourth book in Westview's Special Studies in Africa. It is based on government reports collected by the author when she was a consultant for the U.S. Agency for International Development in the fall of 1976. While there is no bibliography, clearly the major references are the Botswana Development Plans, reports by the Botswana Development Corporation, and the Ministry of Commerce and Industry. The book, itself, reads like a largely descriptive and optimistic government report, but is weak in analysis and explanation. A major part of the book (the appendices, pages 83–147) is devoted to reprints of business regulations and official policy statements regarding foreign investment in Botswana.

Although Botswana is the size of France or Texas, the author calls it small and claims that research on its economy from within "is a practical impossibility." While travel may be difficult, it is possible, and research in the social sciences is encouraged and supported. Because the author believes Botswana "had no real colonial history," she fails to understand the reasons for the country's poverty and economic backwardness, and the problems the current government has in breaking Botswana's dependence upon South Africa for jobs, manufactured goods, technology, and selected services. Her approach is ahistorical and analytically weak. Growth and development, viewed solely in economic terms, are used interchangeably and are attributed to an aggressive development program based on foreign investment in mineral extraction, and to devoted and determined leadership working within an environment of political stability. Botswana's economy is presented as a success story worthy of close scrutiny and possible emulation.

The book opens with a brief overview of the structure of the economy and the role government has played in diversifying the economy since independence (1966). Much of the credit for the expansion and diversification is attributed to an efficient planning organization, dedicated government leadership, and Botswana's willingness to have expatriate skilled personnel serve as senior civil servants. Botswana's economic dualism is described, yet no attempt is made to show the relationships between the traditional (underdeveloped) sector and the modern (developed) sector. The author's portrayal of traditional life is curiously misleading. Traditional cattle posts and grazing lands are called "ranches" to which, she claims, many "city dwellers" head on weekends. And the statement "most families have three homes—one in the village, one on the farm, and another at the ranch—and move from one to another

depending on the season" (p. 15) conveys affluence; most Botswana are poor.

Each of the major sectors of the economy—transportation, agriculture, mining, manufacturing and services, and foreign trade—are discussed in turn. The Rhodesian-owned and -operated railroad that traverses the length of eastern Botswana is clearly of vital importance to Botswana's externally-oriented economy. But of greater importance in the future, especially if more and more Botswana are to benefit from advances in agriculture and industry, will be the need to develop a feeder road system. This is not stressed. More attention is paid to the psychologically reassuring Botzam road project and to the possibilities of a rail link with Walvis Bay, erroneously located in Namibia.

Pastoralism and agriculture remain the economic mainstay for most Botswana nationals and still account for about one-third of the GDP, despite significant post-independence gains in the mining sector. They suffer not only from a harsh environment, but also from archaic and inefficient land tenure systems and the ill effects of the migratory labor system. These constraints need to be emphasized. The significant gains and problems in the mining sector are correctly identified, but there is no analysis of their possible long-term effects. Certainly the spread effects of mining will be minimal, and modernization and development cannot be based on this activity. Manufacturing remains in its infancy, while commerce and banking are expanding significantly. Although the economy has undergone important changes including growth in the GDP, increased investments in mining and transportation, and the development of new townships, modernization and development have yet to diffuse from a few small nodes to encompass the population at large. Growth rather than development has prevailed.

This book is primarily a review of Botswana's economy and not an explanation of it. But it ignores many important issues such as the causes and consequences of the migrant labor system, the country's education and health services, the economic potentials of the Okavango Delta region, tourism, and the role of non-Botswana nationals in wholesaling, retailing, and other services. All deserve discussion, especially Botswana's dependence on South Africa for jobs. In 1975, for example, over 34,000 men were recruited as migratory laborers to work on South Africa's mines and farms, while only 62,462 persons were employed in the formal sector within Botswana. The origins of migratory labor date back to the early colonial era, and the socioeconomic consequences are widespread and profound. Considerable research on the economic impact of the system has been undertaken and is underway, yet there is no mention of it here. Had the author gone beyond the bounds of government documents, a more accurate and fuller presentation of Botswana's economy could have been written.

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Industrialization in Colombia: Policies, patterns, perspectives. By JAN PETER WOGART. Institut für Weltwirtschaft an der Universität Kiel, Kieler Studien, no. 153. Tübingen, Germany: J. C. B. Mohr (Paul Siebeck), 1978. Pp. xiii, 176. *JEL 79-0093*

This monograph is one of a series that is being published under the auspices of the Institut für Weltwirtschaft in Kiel on trade and industrialization in different developing countries. After a brief introduction, chapter 2 presents a detailed description and analysis of the import substitution and export diversification policies that have been followed in Colombia and an empirical exploration of the relationships between the external sector and industry. The third chapter surveys the origins, growth, and diversification of the industrialization process and attempts to measure the contributions to industrial development of the different trade strategies that have been followed. The fourth and final chapter attempts to isolate the major determinants and effects of the export diversification that has taken place and to test the compatibility of this diversification with comparative advantage. Fifty-nine tables are included, as is a fairly extensive bibliography. There is no index.

The book suffers, unfortunately, from a number of short-comings. To begin with, the analytical penetration tends to be a bit shallow in parts. In one equation, for instance, aggregate industrial output is used as an exogenous de-

terminant of industrial exports without any discussion of possible simultaneous equations bias (p. 127)—this despite the fact that in an earlier equation, capacity to import was used as a determinant, indeed the sole determinant, of GDP (p. 11). In several other cases, equations have only one explanatory variable and/or seem to be much too simple for other reasons (*e.g.*, pp. 20, 111). Again, in the calculation of the fiscal cost of export incentives there is no discussion of the extra output and hence tax revenue that such incentives generate (p. 133).

Second, in many tables, material has been spliced together from several sources but no indication is given of how, if at all, the different data sets were made compatible. One case with which I happen to be familiar is disturbing in this regard. A quick reading of Table 7 (drawn from three different sources) suggests that nominal tariffs on apparel showed a marked degree of fluctuation during 1967–74. On reading the footnotes of the table, one set of rates for 1970, 1972, and 1974 (183, 311, and 34, respectively) are calculated on one basis (customs duties as a percent of imports). The second set of rates for 1967 and 1974 (68 and 80, respectively) are calculated on another basis (average nominal tariffs). Furthermore, in reality, the true trend of average nominal tariff rates for apparel was slightly *downward* between 1967 and 1974, and not upward as even the apparently compatible data of the table for these years suggest. It also seems highly unlikely that customs receipts as a percentage of imports fell dramatically from 183 to 31 percent between 1970 and 1972, since there was in fact no significant change in nominal tariff rates for apparel in that period. One can only wonder whether in other tables, too, part of the observed variation reflects differences in the way that variables were measured in the different sources from which the table was built up, rather than real changes in the underlying variables themselves.

Third, much of the material presented in the tables (and also in part of the text) is rather dated. Only half a dozen tables contain data through 1975; most stop in 1973 or earlier.

Finally, there are problems with the English and a number of names are inconsistently spelled. For example, Escandón (p. 169) becomes Escandron (p. xii) and Escandrose (p. 7); Steuer appears as Stener (pp. 76 and 175); Macario becomes Marcario (p. 173). Such sloppiness of presentation does little to reassure an already nervous reader concerning the reliability of the study.

All in all, then, although there may indeed be some useful data in this book, and perhaps some useful analysis as well, the reader will need to be more than usually careful in sifting through it to find them.

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Social and economic inequality in the Soviet Union: Six studies. By MURRAY YANOWITCH. White Plains, N.Y.: Sharpe, 1977. Pp. xv, 197. $15.00. *JEL 78–0075*

Of enduring fascination for Soviet watchers—expert or otherwise—is the extent to which the U.S.S.R. deviates from the model of a classless society. With the elimination of private property, the source of inequality, why does the Soviet system still maintain substantial differences in rewards, status, even in some cases, access to basic resources? As Murray Yanowitch admirably demonstrates in *Social and Economic Inequality in the Soviet Union*, the question is by no means rhetorical. Yanowitch's work on inequality, stratification, and mobility is well known to Soviet scholars. In this latest research, he comprehensively explores the contributions of the new, empirically-oriented school of Soviet sociology on the issue of social structure in the U.S.S.R. The author relies upon its members' research in discussing income differences, differential access to schooling, social mobility, decision-making hierarchies at factory and farm, and sexual stratification.

The new school seems intent on rejecting the ossified Stalinist model of "two classes and a stratum," in which workers and peasants, marked respectively by their relation to state and cooperative ownership, are seen as "non-antagonistic" classes and are joined by the intelligentsia as a "stratum." This is not to suggest that within academia there now exists a group of muckrakers who seek to discover "who rules the Soviet Union." Nor are there ideological levellers painting lurid portraits of rural poverty. According to Yanowitch, the contemporary Soviet view has it that "socialist society not only inherits social and economic inequal-

ity from capitalism but reproduces it insofar as the urgency of continued economic growth requires retaining a 'social division of labor.' This is an aspect of its 'immaturity' compared to the communist society of the future" (p. 13). To allow researchers to concentrate on potentially sensitive subjects, this ruse provides the needed smokescreen. But it ignores, as Yanowitch wisely notes, the fact the inequality in the U.S.S.R. is always and everywhere mediated by *political* decision-making. And the issue of political power, like public discussion of sex and religion, is gingerly avoided.

Yanowitch's ahistorical approach diminishes somewhat an otherwise exemplary piece of scholarship. Aside from an evaluation of Leninist principles of management, too little attention is paid to the antecedent causes of inequality, to the fact that stratification has been a cumulative process. It is worth reviewing, if only very briefly, the unnatural history of privilege in the U.S.S.R. Lenin's stand on equality was marked by ambivalence, both theoretical and practical. He recognized in *The State and Revolution* [17, 1917] that "the first phase of Communism . . . cannot produce justice and equality: differences in wealth will remain unjust differences, but the exploitation of one man by many will have become impossible." Yet in the first blush of War Communism, worker wage differentials were considerably narrowed. By the end of the civil war (1918–21), Lenin was well aware of the need to coopt "bourgeois" specialists. Opportunism won out; differentials were reestablished and widened. If such inegalitarian policies were expected to be temporary, Stalin arrived to silence the true believers. Marxian principles notwithstanding, Stalin denounced *uravnilovka* ("equality-mongering") and aggressively promoted the infamous system of "party packets" (secret cash handouts) to Party luminaries and government elite. Khrushchev, as P. J. D. Wiles has remarked, was a populist who "felt morally compelled to raise peasant incomes and to include the collective farms into socialism." His success in the consequent effort was in marked contrast to other egalitarian decisions which, often introduced preemptorily, were just as often effectively rescinded by vested interests.

The present system of rewards, social and economic, has been fashioned then by past political leaders. However, "the overriding (although not exclusive) principle continues to be 'payment in accordance with the quantity and quality of work' " (p. 24). Yanowitch claims that the narrowing of differentials between manual and nonmanual workers, between the more and less favored branches, and between the various skill levels is not regarded by the Soviets as a conscious attempt to reduce inequality. Rather the trend toward greater equality is seen as a reflection of changes in skill and education composition of the labor force, shifts in national economic priorities, labor force participation rate changes, *etc.* However true this may be, there can be little doubt that the officially sanctioned meritocratic principle is hedged at every turn by special privilege. And the great virtue of Yanowitch's book is that he illuminates the judicious ways in which some Soviet intellectuals (oftentimes the beneficiaries of inequality) protest this privilege in a defective meritocracy.

Only a small sample of Yanowitch's findings can be given here. Opportunities for post-secondary education are much greater for children of urban intelligentsia than for working class and peasant youth, though "political authorities have leaned cautiously" toward reducing this advantage.

Studies of "social mobility," once derided as an aspect of "bourgeois sociology," have become fashionable. Ironically, this research, based heavily on Western stratification models, is designed to demonstrate just how far the newly-schooled worker or peasant can go in an "open society." The first tentative studies on perceptions of occupational prestige are consistent with actual income differences: manual workers in high priority sectors rank higher than nonmanual technical specialists in less favored industries.

Recommendations for and experiments with "production democracy" at the work place have had little success. Lenin's notion of "one-man management" does not die easily. Yanowitch shows that effective "worker participation" in industrial decision-making has run up against plant managers anxiously clutching their perquisites and resisting reform.

In what is perhaps the best section of the book, the author thoroughly documents sexual

inequality in the U.S.S.R. A socialist can take pride in the fact that blue-collar workers have gained relative to white-collar workers, unless the socialist is a woman. Low status white-collar work is heavily dominated by females. "Traditional" and "feminist" views, both committed in different ways to a reduction in sexual inequality, are thoughtfully aired, as is the issue of power within the institution of the family. Yanowitch properly eschews analogies with the U.S., but the bleak situation for women in the U.S.S.R. does invite comparison with the current sexual "dual labor market" theory so popular in Western labor economics.

Professor Yanowitch, a long-time toiler in the murky fields of Soviet social science, has written a first-rate book on the highly differentiated layering of Soviet society. As a survey of Soviet contributions to social stratification in the U.S.S.R., the book has no competitors.

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200 Quantitative Economic Methods and Data

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

Wealth and Personal incomes. By A. B. ATKINSON, A. J. HARRISON, AND T. STARK. Reviews of United Kingdom Statistical Sources, Vol. 6. Oxford; New York; Toronto and Frankfurt: Pergamon Press for the Royal Statistical Society and the Social Science Research Council. Pp. irregular. $25.00.

JEL 79–0115

These monographs, when combined, represent the sixth volume in an eight-volume series of studies collectively entitled, "Reviews of United Kingdom Statistical Sources." Co-sponsored by The Royal Statistical Society and the Social Science Research Council, the series was designed to act as a reference work to the sources of both official and unofficial statistical materials relating to the United Kingdom. The collection is organized to allow its users (not just policy-oriented statisticians) to discover what data are available on the subject of interest, where the information may be obtained, and what limitations exist on the data's use. Data are regarded as being available "not only if published in the normal printed format but also if they are likely to be released to a bona fide enquirer in any other form, such as duplicated documents, computer print-out or even magnetic tape" (p. ix). Data sources for each topic are comprehensively covered at the level of national interest, implying that most data sources of a "purely local character" are excluded.

Since the series will primarily be employed as a reference tool (or so it was designed), special features have been incorporated to facilitate such use. First, each review is arranged in a relatively standard form. A brief summary of the subject heading concerned is presented, emphasizing data collection methodology, measurement, time frame, reporting units, and the processing of returns. Core sections on available data sources follow and are arranged at each author's discretion. The final section of each review devotes itself to a discussion of the data's shortcomings and possible improvements.

Secondly, detailed information concerning statistical series and other pertinent data is given in a "Quick Reference List" at the end of each review. Characteristics such as type of data, breakdown, geographic area, author/organization responsible for collection, frequency, and text references are presented.

A third special feature incorporated in all reviews is an attempt at reproducing the appropriate forms and/or questionnaires used in collecting the data. Such information allows the series' users to determine what tabulations may be made and aids in clarifying the basis of calculations already performed.

The specific aim of the review entitled *Wealth* is to describe the main sources of statistical information concerning the distribution of wealth in Britain's personal sector, including households, personal trusts, and unincorporated businesses. The material is presented in seven relatively brief sections (the longest is ten pages) with the first serving as an introduction/definition/plan of work section. In that section, wealth is defined to include "all assets (and liabilities) which could convey command over resources" (p. 8). Obviously, then, this specification introduces the valuation problem with which the authors deal by considering

two different bases—valuation on a realization basis and valuation on a going-concern basis. The former refers to the value obtained in a sale on the open market at a specific time, and the latter process values an asset on the assumption that it is retained by its owner.

Other definitional questions concern geographic coverage and units of analysis. In these areas, the review basically concerns itself with nuclear families and individuals in Great Britain (some data for Northern Ireland are considered).

Section 2 of the review describes the process by which estate duty statistics are obtained and the form in which they are published. These data are of primary importance in determining estimates of the distribution of wealth in Great Britain via the estate method (described below). Estate duty statistics are collected by the Inland Revenue and relate to the estates of certain individuals dying in a given financial year. Under the current system of taxation, death is the only occasion on which the assets and liabilities of individuals are revealed to government officials, and appropriate duties are applied. The Inland Revenue then draws a sample from the estates reported to it and publishes the details of estates based on this sample. Sample data are classified by the size of the estate and the sex and age of the deceased.

Generally, three methods exist that allow one to estimate the distribution of wealth—the estate method, the investment income method, and the sample survey method. Each estimation technique is discussed by the authors; the first being the estate method to which Section 3 devotes most of its space. The official wealth estimates produced by the Inland Revenue are calculated using the estate method. It involves "the multiplication of the total number and value of estates in each cell by the appropriate mortality multiplier (which is the reciprocal of the mortality rate)" (p. 18). Cells are classified by estate size and age and sex of the decreased. A detailed critique of the Inland Revenue estimates rounds out Section 3.

The fourth section of the review reports on unofficial estimates of the distribution of wealth generated by academic investigators using the same data source described in Section 3. The studies summarized differ in many respects, yet the most important differences appear to be in the types of mortality multipliers employed and the treatment of the missing observations from the estate duty returns. This section also addresses the problem of consistency in the data over time.

The next section discusses two alternative wealth estimation techniques. The Investment Income or Giffen method employs income tax data to determine the size distribution of investment income. This distribution is then capitalized, via the application of yield multipliers, to obtain the distribution of wealth. Because of its deficiencies, this method seems to be an unlikely candidate for replacing the estate method as the official technique.

The best-known surveys concerning wealth are also described in Section 5. They include the Oxford Savings Survey, the Essex Poverty Survey, and the Economists Advisory Group Survey. Each is summarized and deficiencies are noted.

Section 6 outlines other sources of information that relate to personal wealth-holding, yet provide no insight into the size distribution of total wealth. Balance sheet data are considered in the first part of the chapter, while data on holdings of individual assets such as houses, automobiles, and financial instruments are discussed in the remaining paragraphs.

The last section of the review briefly discusses improvements in data collection and estimation methods, and fourteen specific recommendations of a rather technical nature are made.

The second monograph in the volume is entitled *Personal Incomes*. This review concerns itself with the sources of data (primarily official, postwar) on particular types of personal income measures for the United Kingdom. The base concept of personal income employed is that of orthodox national income accounting, namely, "the flow of receipts over a period of time to the personal sector of the economy" (p. 9). The United Kingdom's personal sector is composed of "individuals, grouped in either families or households, unincorporated businesses, charities, some educational institutes and life assurance and superannuation funds" (p. 9).

Section 2 deals with the topic of aggregate

personal income; its definition and primary sources, the expenditure items included, methods of estimation, personal disposable income (nominal and real), Northern Irish data, and historical (pre-war) data. The authors note that the aggregate personal income variable is the most important because it forms a basic control total to which any study employing personal income data must relate. Methods for evaluating the reliability of data used and critical evaluations complete this section.

The third section concentrates on the distribution of personal income and its relationship to aggregate personal income. There are currently six officially published sources of data that can be used for income distribution analysis (another is forthcoming) and all attempt to quantify the size and/or type of income accruing to individuals, whether grouped in income tax paying units, households, or on a per capital basis, over a specific period of time. The sources include the Inland Revenue, the Central Statistical Office, the Family Expenditure Survey, the General Household Survey, the New Earnings Survey, and the Department of Health and Social Security. Definitions of income, accounting unit, data collection methodology, and cross-tabulations of income size with population characteristics all vary depending upon the data source used. Section 3 also reviews the three reports issued by the Royal Commission on the Distribution of Income and Wealth, notes two sources of forthcoming income distribution data, and considers income items omitted from consideration.

Section 4, entitled "Special Data Sources," lists several income data sources for specific groups of people or categories of income. No aggregate picture can be obtained from these sources, yet their potential for use as a supplemental source of income data is great. Special sources include data on specific occupations and professions (doctors, dentists, *etc.*), official Social Security data, and unofficial data on low incomes and poverty.

Section 5 considers the problems and difficulties associated with an attempt at matching the varied official published sources of income distribution data, discusses three gaps in the present array of available statistics, and cites possible improvements to the current presentation of official statistics so that interpretation and expansion difficulties can be reduced.

In general, both reviews accomplish the stated purpose of the entire series, that is, "to act as a work of reference to the sources of statistical material of all kinds, both official and unofficial" (p. ix). Each review is well written and concise, leaving hypothesizing and conjecture for other publications. It is also fairly obvious that each survey was carefully developed (numerous references and explanatory notes), and each is well documented with numerous tables. This reviewer was especially impressed with the quality and quantity of data presented in the "Quick References List" of each review and with the specimens of the official reporting documents listed in the appendices. The seven specimens reproduced for the incomes' review were of particular interest.

A quote on the back cover of this volume attributed to Britain's Social and Economic Administration states that:

> any social scientist busy digging out data for his research will have ample cause to thank particular authors of these reviews for sparing him the time-consuming task of ensuring that he will at least find what has appeared during the past thirty years without undue effort.

I think that this passage may be typical of alleged British understatement.

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300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

Money and capital markets in postbellum America. By JOHN A. JAMES. Princeton, N.J.: Princeton University Press, 1978. Pp. xv, 293. $16.00. *JEL 78–0923*

This book is primarily a study of commercial banking in the postbellum period. The author views his work as an example of the New Economic History, but to those in the areas of monetary economics and finance, the content of the volume will seem sufficiently institutional in its orientation to make it a clear example of a historical study.

After an introductory chapter, the author

provides an overview of the growth of the banking system after the Civil War and in chapter 3 reviews the type of credit instruments held as assets in commercial bank portfolios during the period. In chapter 4, the author discusses the character of the correspondent bank practices of the period, which tied rural banks to those in the larger cities, and in chapter 5 discusses regional flows of funds between banks with particular attention to the development and spread of the commercial paper market. Chapter 6 is a review of the alternative hypotheses that have been developed to explain the sharp decline in regional interest rate differentials that occurred during the late nineteenth century. The alternative hypotheses include Lance Davis's [1965] view that the spreading of the commercial paper market enhanced capital mobility, Richard Sylla's [2, 1969] view that the Gold Standard Act of 1900 reduced barriers to entry for national banks and thus broke down local monopoly power of banks, and the final alternative that these differentials merely represented regional differences in risk or transactions costs.

On the whole, the book contains very little in the way of new analytical insight or useful quantitative evidence. The regression results and tests underlying the hypothesis are considered by the author to be too "esoteric" for inclusion in the book, and the reader is referred to journal articles instead. This seems an unfortunate decision for a book that is published by a university press, for it leaves this fairly brief book as primarily a review of institutional information and devoid of much analytical content. The first three chapters in particular are much more in the realm of a history textbook rather than analytical research material. In chapter 4, James argues that the development of correspondent balances provided a sophisticated structure, which linked the individual bank units of the postbellum banking system, and furthermore that this structure served as a substitute for nationwide branch banking. However, even James seems to recognize by the end of the chapter that the existence of correspondent banking practices hardly provides evidence of the ability of the banking system of that period to *efficiently* allocate resources. This is because the character of correspondent relations insured that funds had to flow from rural to urban areas, from West to East, from what in fact were high interest rate areas to low, without providing urban banks with the access to rural lending opportunities as would have occurred in a branching system where branches could originate both deposit and lending opportunities. Indeed, from the standpoint of monetary economics just the reverse of James's hypothesis seems more logical. That is, the nature of correspondent banking required rural areas to transfer a portion of their asset portfolios from local potential investment opportunities into idle balances, which were then used by urban banks to finance their local investment. Thus, the interest rate differentials may have been caused instead of cured by the structure of correspondent banking! James also recognizes that the development of the commercial paper market did not seem to provide a mechanism for reversing this inevitable transfer of resources. Throughout these chapters James's evidence consists of quotations drawn from contemporary observations. While such quotations may provide useful insight for framing hypotheses, as a source of evidence for testing hypotheses they are likely to be viewed by economists as rather casual empiricism and hardly as substantive evidence to support hypotheses, especially since the quotations are generally one-sided with respect to their sources (for the most part statements by bankers).

With regard to the sharp decline in regional interest rate differentials that occurred near the end of the century, James states that his regression analysis (not reported in this book) indicates that neither the presence of risk differentials nor the progression westward of the commercial paper market seem to explain the decline in interest rate differentials, but rather that the explanatory factor was the increase in banks. However, according to James, it was not the growth in the number of national banks as Sylla [2, 1969] suggested, but the growth in the number of state banks that broke down local monopoly power of banks. This conclusion, if correct, of course would prove rather directly that the correspondent banking system could not have been an effective substitute for a competitive system of nationwide branch banking (James's hypothesis in chapter 4), a

conclusion James never notes. Nor does this result seem a very thorough answer to the decline in regional interest rate differentials. James never touches on some of the relevant questions implied by his view, such as why the growth in the number of state banks accelerated. Were there any monopoly profits during the period? Did these monopoly profits fall with new entry? Once again, James's conclusions are inconsistent, since he suggests that there was flexibility in the capital requirements in most states for private and state banks throughout the postbellum period. But this flexibility implies that the barriers to entry should not have been strong enough to have sheltered monopoly profits and maintain interest rate differentials. In other words, James's view is that the growth in the number of primarily state banks eroded monopoly power towards the end of the 1800's, which resulted in the narrowing of interest rate differentials. Since James provides no clear evidence of significant *changes* in barriers to entry, why did not the number of state banks grow earlier, and why was not this monopoly power and hence interest rate differentials eroded much earlier in the postbellum period?

Overall, this book clearly lies within the discipline of history and may appeal to professionals in that area. To those who are trained in the disciplines of economics and finance, it has much less to offer, especially since the relevant empirical material has been omitted. At best this book may be useful as a reference for institutional information pertaining to that period. Moreover, to an economist it seems disturbing that a book with this title has no discussion or analysis of the government bond markets, especially the market for federal debt which, of course, had grown large as a result of the financing of the Civil War and thus presumably must have had a substantial impact on commercial bank behavior during the postbellum period. In general, it is very hard to view this volume as a satisfactory analysis of the period between the Civil War and the beginning of the Federal Reserve System. At best it seems to fall halfway between being a limited textbook on financial history and a work of analytical economic research, and as a result will probably satisfy neither historians nor economists. Reading this book, economists are likely again to ask the question of how much economics is there in the New Economic History?

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REFERENCES

1. DAVIS, LANCE E. "The Investment Market, 1870–1914: The Evolution of a National Market," *J. Econ. Hist.*, Sept. 1965, *25*, pp. 355–99.
2. SYLLA, RICHARD. "Federal Policy, Banking Market Structure, and Capital Mobilization in the United States, 1863–1913," *J. Econ. Hist.*, Dec. 1969, *29*(4), pp. 657–85.

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

Federalism: Failure and success: A comparative study. By URSULA K. HICKS. New York: Oxford University Press; London: Macmillan Press, 1978. Pp. ix, 205. $19.50.

JEL 79-0430

This brief and very readable volume comprises ten case studies of the development—or decay—of federalism, principally since World War Two, and principally in African and Asian countries with which the author is personally familiar, and which help elucidate the problems confronting new federations. Well-established federations like the United States and Canada are excluded, apart from brief comments in the concluding chapter. Also excluded as not being truly democratic are the so-called federations in Latin America, Eastern Europe, and the Middle East.

Each of the case studies is treated historically, this approach being preferred not only to legal interpretation but also to economic analysis—despite the author's standing as a public finance economist. Three reasons for this approach may be deduced from the preface. The first is that it demonstrates that absolute values attach to neither "failure" nor "success," both having been "throughout history . . . intermingled." For this reason Australia and Switzerland are included among the case studies as examples of federations that have experienced "awkward corners" but have survived even threats of secession without civil war (chap. 7). The second reason is that federalism itself is not an unchanging concept akin

to one of the external verities. The historic type of coordinate (or layer cake) federalism has everywhere now been replaced by cooperative (or marble cake) federalism, with the result that intergovernmental relations have become matters of vital political, social and economic concern in all federations. The third reason for the historical approach is that it highlights the sociological and cultural factors that the author regards as "essential for a proper understanding of federal failure and success," but which are only too apt to be forgotten by economists.

In the formation of federations, economic factors such as the advantages of free trade have usually been overshadowed by the need for common defense against external pressures. In the postwar years such pressures were reinforced by the process of decolonization, with the retiring colonial powers, notably Britain but also France and the Netherlands, pressing their dependencies to unite into politically and economically viable units. This development was the more notable, since at the time Harold Laski's view that federalism had outlived its usefulness had become widespread in British political circles [1, 1939]. This view was strengthened by current economic and fiscal trends, particularly the assumption by central governments of increased responsibility for full employment, social security, and (more recently) environmental protection, and at the same time the centralization of a larger share of the available tax resources. However, as noted in the concluding chapter, these tendencies were more evident in the established federations than in the undeveloped countries. In India the central government's powers in relation to the states, which were already strong under the Constitution, were indeed enhanced following the establishment of the National Planning Commission in 1950 (chap. 5A). Nevertheless India has not turned from federation to complete unification as South Africa did at an earlier date, but for reasons that were clearly political and racial rather than economic (chap. 2A). It may also be noted that Pakistan and Nigeria, after periods of civil war and unitary military government, now give promise of a return to revised forms of federalism (chaps. 5B and 6). The only example of a postwar federation developing into a unitary state cited by author, but not extensively discussed, is the Cameroon Republic created by the union of former British and French trust territories; but the main motive again seems to have been not economic but the removal of linguistic and other traces of their colonial dependence and separation.

From the evidence presented in this volume, it would seem that economic factors have a more significant role in the break-up than in the formation of federations. Unavoidable disparities in the economic strength and resources of the federating units serve to enhance any ethnic, cultural, or other differences making for dissolution. To the summary of such factors given in the final chapter, one might perhaps add the postwar role of the United Nations in admitting to membership any self-governing territory no matter how small, thereby granting it access to international aid and giving local leaders an exaggerated sense of their own importance. In these circumstances weaker units that fear domination by the stronger may well decide against federation as happened in British East Africa (chap. 2B), or they may decide simply to federate among themselves, as Malaysia did without Singapore (chap. 3B). On the other hand the stronger units may themselves decide to withdraw lest the weaker ones become an undue burden on them, as Jamaica and Trinidad withdrew from the British West Indian Federation (chap. 3A). In other circumstances the stronger units may resort to civil war to prevent the secession of the weaker units, successfully as in Nigeria (chap. 6), or unsuccessfully as Pakistan failed to prevent the secession of Bangladesh (chap. 5B). The author obviously has a close personal knowledge of some of these countries, derived in part at least from service as a consultant, and some of her chapters have the vividness of an eyewitness account, or even a war correspondent's dispatches.

Interesting as this volume is, it is marred by many misprints and a standard of proofreading far below what one would have expected from the Oxford University Press. Judging also from the Australian sections, with the subject matter of which the present reviewer is naturally most familiar, there are also some quite serious misstatements and misinterpretations of fact. It is simply not true to say that Casey

was the first Australian Governor General (p. 145), that there was a serious secession movement in South Australia and Tasmania in the early 1930's (p. 149), that the entire federal debt was redeemed during the war (p. 153), or that the Grants Commission found it impossible to evaluate the true position of state budgets (p. 184). These examples suggest that while the student may derive much stimulus from this volume, he would be well advised to go to other sources for his facts.[1]

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REFERENCES

1. LASKI, HAROLD J. "The Obsolescence of Federalism," *New Republic*, May 1939, *98*(1274), pp. 367–79.
2. WATTS, RONALD L. *New federations: Experiments in the Commonwealth*. Oxford: Oxford University Press, Clarendon Press, 1966.

[1] Such as Ronald L. Watts [2, 1966].

Public policy and the corporation. By MERVYN A. KING. Cambridge Studies in Applied Econometrics, No. 3. London: Chapman and Hall; New York: Wiley, Halsted Press, 1977. Pp. xiv, 309. $25.00. *JEL 78–0741*

This is a substantial theoretical and empirical study of some important aspects of corporate financial behavior. The central theme of the book is the impact of alternative corporate tax systems on the use of different sources of financing and on dividend policies. However, other related issues also receive considerable attention.

After a brief introductory review of the evolution and the present status of corporations in the modern economy (chapters 1 and 2), the author outlines alternative systems of corporate and personal taxation and their use as a tool of public policy (chapter 3). He then analyzes the impact of taxation on the optimal corporate financial policy, first under conditions of certainty (chapter 4). His analysis is clearly and logically developed, largely in algebraic terms, and the conclusions are, for the most part, straightforward and non-controversial, as one would expect them to be in the absence of a consideration of uncertainty.

Chapter 5, doubtless the most important theoretical chapter in the book, which explicitly introduces uncertainty, is both more challenging and thought provoking. Professor King begins by criticizing the conventional neoclassical models of the firm's financial behavior for failure to analyze the role of the stock market. He then discusses briefly the Arrow-Debreu model with its concept of contingent commodity (distinguished not only by its physical characteristics but also by the "state of the world" at the time of its availability) and points out what he considers to be the model's serious weakness insofar as the corporate system is concerned. Since the number of corporations in existence is rather limited, King finds unacceptable the assumption that there are as many contingent commodity markets as there are states of the world. In the actual economy with an incomplete set of Arrow-Debreu markets, each firm has a monopoly of a particular pattern of returns across states of the world. In such an economy, the stock market has an important function to perform, not only as the market for shares in which individuals may spread risks or speculate, but also as "the arena where we observe individuals and groups fighting for control of particular companies" (p. 130). Under these conditions, both the stockholders and the managements influence corporate policy, and there is a need to integrate the neoclassical and the managerial theories of the firm.

King proceeds to demonstrate, by means of both algebraic derivations and simple numerical examples, that: (a) when the firm can affect the prices of the commodities its shareholders buy or sell, one cannot assume that the policy of share price maximization is in its shareholders' interest, and (b) when there are differences in the shareholders' utility functions and subjective expectations, there may be a serious conflict of interest between different groups. He suggests a managerial model in which there is a given number of firms and a given number of management teams, which compete for the right to run particular firms. Any team can challenge the existing management by proposing an alternative policy and making a takeover bid. The shareholders may then express their choice by vote between the existing man-

agement team and the rival team. The greater the differences between individual shareholders' preferences, the stronger will be the position of the management team already in power.

While this is an interesting theoretical proposition, is it realistic enough to be accepted even as a first approximation to the actual world? King provides some empirical evidence on the significance of the "take-over" factor, based on the data for British corporations over the 1951–71 period, in chapters 6 and 7. In the first of these econometric models of dividend behavior are discussed. Several earlier models (of Jan Tinbergen, Franco Modigliani, Sergei Dobrovolsky, and John Lintner) are referred to briefly, and then an alternative model is presented in which the pay-out ratio is dependent on the level of pre-tax income, the tax variables, and what King calls the "signaling mechanism"—the management's use of dividends to convey information to the stockholders. This signaling mechanism is supposed to be used regularly in connection with the take-over threats: when such a threat is present, the management will raise the dividends as a signal to the shareholders that they should vote to reject the take-over bid. King reports that there is "some econometric evidence that take-over activity does affect corporate dividend policy" (p. 196). In the second of these chapters, a model of the debt-equity ratio is presented and tested. King reports that significant results have been obtained by relating the target debt-equity ratio not only to the tax incentives but also to the amount of take-over activity going on in the economy. These empirical results are interesting but seem to provide at best only partial support to King's theoretical model developed in chapter 5. To my knowledge, there has been no comparable empirical study based on the U.S. corporate data. It would, of course, be interesting to know if the take-over factor has had a comparable significance in the American corporate system.

In his final chapter, King goes back to theory and discusses the attributes of "optimal" and "nondistortionary" corporate tax systems. He does not believe that an optimal system could be designed without more knowledge about the incidence of the corporate tax than we have at the present time. The task of designing a nondistortionary system, in which the financial cost of capital is equal to the real rate of interest, is less formidable. He identifies two nondistortionary cases: (1) an integrated system with true economic depreciation and interest-deductibility and (2) a classical system with free depreciation and no tax deductibility for interest payments. Of these two schemes, he finds the second one more appealing.

To sum up, King's book is a highly significant and challenging contribution to the existing literature on corporation finance. However, many questions remain unresolved; and of this problem he is fully cognizant: "The final conclusion of this book must be that in a world of uncertainty there is a great deal about the behaviour of companies and their response to public policy which we do not as yet understand" (p. 252).

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400 International Economics

420 TRADE RELATIONS; COMMERCIAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

The Commonwealth Caribbean: The integration experience: Report of a mission sent to the Commonwealth Caribbean by the World Bank. By SIDNEY E. CHERNICK. A World Bank Country Economic Report. Baltimore and London: Johns Hopkins University Press for the World Bank, 1978. Pp. xv, 521. $22.50, cloth; $7.50, paper. *JEL 79–0448*

The Commonwealth Caribbean refers to the twelve English-speaking Caribbean territories Jamaica, Trinidad and Tobago, Guyana, Barbados, Grenada, St. Vincent, St. Lucia, Dominica, Antigua, St. Kitts-Nevis, Montserrat, and Belize. The federation between a subset of these twelve collapsed in 1962. Jamaica as well as Trinidad and Tobago achieved political independence in 1962; Barbados and Guyana, followed suit in 1966. These four are the more economically advanced of the countries seeking integration, the other eight constitute a less developed sub-group.

The recent integration effort in the Commonwealth Caribbean involves the 1968 agreement on a Caribbean Free Trade Area, CARIFTA, which evolved into the Caribbean

Community and Common Market, CARICOM, in 1973. The main aim of CARIFTA was an increase in regional economic welfare through trade liberalization and regional cooperation. This aim is to be pursued more intensely within CARICOM whose goals also include cooperation in the provision of public services and foreign policy coordination. The Eastern Caribbean Common Market (ECCM), an integration experiment within the broader attempt at Commonwealth Caribbean integration, was formed in 1968 among the seven eastern Caribbean islands of the less developed subgroup. Belize joined CARIFTA in 1971.

The *Report* evaluates the integration experience in the Commonwealth Caribbean, simultaneously assessing prospects and suggesting policies and programs with respect to trade, monetary, and fiscal arrangements; population, manpower, and employment; transport, agriculture, tourism, and manufacturing industry. Discussions on the distribution of benefits from integration and on a statistical system for Caribbean integration are included. An ample, extremely informative, but inevitably discontinuous statistical appendix completes the *Report*.

Both CARIFTA and its successor CARICOM attempt trade liberalization among a set of small, open economies. Both organizations had to confront the fact that imported inputs from outside the region are important for local production. The Exemptions List of CARICOM attempts to accommodate the Common External Tariff to the necessity for extra-regional imports of inputs. This as well as the existence of different degrees of quantitative protection nationally "make for a regional trade regime which is not very rigorous" (p. 37). CARICOM is described as a "disguised free trade area rather than a common market or customs union" (p. 197). The monetary arrangements of CARICOM aim at economizing on the use of international currencies in intraregional payments, at providing members with balance-of-payments assistance, and at directing financial resources to the relatively less developed members of the Community. Free intraregional capital flows are, for cogent reasons, discouraged. Agreements on double taxation and the harmonization of fiscal incentives to industry are features of CARICOM.

The chapter on "Population, Manpower and Employment" is among the more interesting in the *Report*, partly because people are CARICOM's "greatest natural resource" (p. 56), and partly because employment problems present *the* challenge to the development of the CARICOM countries. The decade of the 1960's witnessed a rise in the population of working age, a fall in the size of the labor force, and a decline in the employment rate of even this decreased labor force. While population growth rates are low relative to some other developing countries, uneven population growth by age group makes for a predominance of young adults and adolescents of working age in the population. An anticipated reduction in emigration opportunities, which have historically moderated natural increase, and a youthful, urban-oriented population forebodes more serious unemployment problems. Unemployment rates are related to the "wage-gap" between the organized and unorganized labor markets and the queuing by young members of the working age population for employment in the organized sector—the public service sector and the enclave industries such as oil, bauxite, and luxury tourism. Intraregional mobility of labor is not a feature of CARICOM.

An adequate regional transport network is a *sine qua non* for the integration of economically open territories dispersed through the Caribbean. The *Report* identifies and discusses the problems associated with the operation of this sector and indicates a regional transport strategy.

The agricultural sector despite its recent decline is still among the important generators of CARICOM's income, employment, and foreign exchange. The major structural problems—inefficient land tenure, inadequate supply of complementary inputs, inefficient agronomic practices—and the implications of these for employment and income, are discussed. The regional integration experiment has hardly impinged on agriculture. The mechanisms for regional cooperation in agriculture are described and evaluated; so too are the problems of, and prospects and policies for, the region's major crops, sugar and bananas.

The growth, problems, and prospects of the tourism industry are described and analyzed. The demand for and the supply of tourist facili-

ties, seasonality, and price competitiveness and the benefits and costs of the tourist industry to the region are given rather detailed treatment. The linkages between tourism and other sectors, it is emphasized, are weak or non-existent.

The four relatively more developed countries dominate the manufacturing sector. Import substitution using mainly imported inputs has been the industrialization strategy in the region whose major basic resources outside agriculture are bauxite, petroleum, and natural gas. The CARIFTA experience and the options and prospects for specific industries under CARICOM are examined. The chapter concludes with a section on manufacturing in the relatively less developed member territories.

The book is useful for those interested in economic integration between small countries. It is invaluable for those researching the British Caribbean. The Bank performs an invaluable service by publishing such information and analysis.

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500 Administration; Business Finance; Marketing; Accounting

520 BUSINESS FINANCE AND INVESTMENT

Factors in business investment. By ROBERT EISNER. National Bureau of Economic Research General Series no. 102. Cambridge, Mass.: Lippincott, Ballinger, for the NBER, 1978. Pp. xxiv, 219. $17.50. *JEL 79–0479*

The behavior and determinants of business investment constitute a subject of the very first importance, and in this book Professor Eisner presents the results of a lengthy and systematic analysis of a unique body of data—the individual returns from over 700 companies (suitably coded to preserve confidentiality) to 14 annual surveys conducted by the McGraw Hill Publishing Company from 1956 to 1969. These returns have the special advantage that the company was asked to state, in quantitative form, its *expectations* about future sales and future capital expenditure.

The number of important questions that can be tackled with data of this kind is legion, and Professor Eisner almost drowns one in a sea of regression equations. At one extreme he puts all the results for all the 700 companies for each of the 14 years in which they reported into one big pool: care is of course taken to express each of the variables as a proportion of some other variable for the company, so that firms of different types can be treated together. But he also does the same thing for the various industries (or years) separately, and also treats an industry as a unit rather than a group of firms, and so on. As was to be expected, cross-section approaches and time-series approaches usually yield rather different answers, and so do approaches based respectively on single firms and on whole industries as the unit of observation. I would myself have liked more discussion of which of these approaches is likely to give economically useful results and for what purposes.

The plan of the book and some of the important findings are as follows. First, Professor Eisner considers sales expectations and realizations, and finds *inter alia* that the one-year forecasts are, on average, very accurate, but that this largely reflects a cancelling out of opposite errors made by the individual firms.

Next, Professor Eisner considers investment in inventories and finds on the whole that it can be reasonably well explained in terms of firms aiming at stock equal to a certain multiple of expected sales (with "expected" as the key word).

Then in chapters 4 and 5 we arrive at the heart of the analysis: attempts to explain capital expenditure in terms of past and expected sales changes, profits, depreciation, and other supplementary variables. To avoid false emphasis, it seems wisest to say no more here than that the emphasis is on "accelerator" ideas and that there is a mass of material for readers to consider.

Chapters 6 and 7 consider capital expenditure anticipations and realizations—first one-year, and then longer-run. The one-year estimates are, on average, about 3 percent too high, but the four-year estimates are on average about one-third too low. There are a lot of interesting analyses of why particular estimates prove wrong—*e.g.*, one-year estimates tend to come out low if sales and/or profits during the year prove to be unexpectedly good, thus making acceleration of the work

seem both more urgent and easier to finance.

Chapter 8 considers replacement expenditure separately from expansion expenditure and finds that the two move together in response to economic conditions (*e.g.*, sales expectations), though replacement expenditures are less unstable. Chapter 9 summarizes the main conclusions.

This is a book that will be obligatory reading for all workers in this field. Nevertheless, I would suggest to them that they keep a very independent mind about the *economic interpretation* of the statistical findings, and even ask themselves on occasion whether the right analysis has been made. For Professor Eisner thinks preponderantly in terms of regression analysis, and yet never seems aware of the axiom that regression coefficients basically tell you about the relationship between the *deviations* of explanatory variables from their means and the associated *deviation* of the dependent variable from its mean. They do not explain the relationship(s) between the means or between the absolute values of the variables.

This criticism clearly needs examples, and the simplest relates to the interpretation of the "regressive" effect in relation to sales expectations. This is first mentioned on page 17, analyzed in the subsequent pages, and reported in the chapter summary on page 40 and in the conclusions on page 191. The statistical facts are simple. With the firm's expectation of percentage sales change as the dependent variable and the actual percentage changes in recent years as explanatory variables, the regression coefficients for the two latest years are negative. This means that if recent sales increases have been above average, the firm's prediction will tend to be for a below-average increase (which may of course be negative). But Professor Eisner does not mention the word "average": indeed he does not even give the figure in his table (but on page 29 he mentions in another connection that over all the data the increases averaged 6.5 percent). He says flatfootedly on page 40, "Where firms have most recently experienced sales increases, they tend to expect sales declines and vice versa": this means that they would expect a decline even if their recent increases had been below the average of 6.5 percent, and it is totally wrong.

This type of error recurs—*e.g.*, on page 21, "the regression, . . . with a sum of coefficients of past sales changes of 0.487, [suggests] that short-run sales change expectations of an industry are about half a weighted average of past sales changes." This completely ignores the constant in the equation and is a ridiculous statement anyhow, since we are also told that expectations are on average about right (so that the statement could only be true if sales increases were rapidly falling through time).

This type of point should be given very careful consideration by the author and a constructive critic when the time comes for a second edition.

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600 Industrial Organization; Technological Change; Industry Studies

630 INDUSTRY STUDIES

The service industries: Strategy, structure and financial performance. By DEREK F. CHANNON. New York: Holmes & Meier; London: Macmillan Press, 1978. Pp. xvi, 292. $53.75. *JEL 79–0495*

With the work of A. Chandler [1, 1962] and Oliver E. Williamson [2, 1970], economists have begun to pay attention to issues of strategy and structure. The interest in strategy stems from a desire to examine the mechanisms by which real-world firms grow. The importance of studying structure stems from the relationships between organization form, internal efficiency, and profit maximizing-behavior, clearly stated by Williamson. Derek Channon's book on the service industries is therefore likely to be of interest to economists, especially in those interested in the theory of the firm and industrial organization, as well as its traditional readers in such areas of corporate planning and marketing.

The book examines the service industries or tertiary sector of the British economy including the "city," overseas trading business, property–leisure industries, retailing, transport, utilities, and postal service. It thus examines the "industrial" part in the tertiary sector. The industries studied include privately-owned companies and government-owned enter-

prises. His inclusion of these "nationalized industries" represents an important extension and challenge to the application of his methodology as well as throwing further light on the control of state enterprise.

The first chapter of the book describes the motivation for and origins of this study of the tertiary sector—the fact that it is the biggest sector in terms of GDP and employment in the U.S. and U.K., and that the "industrial" part of the tertiary sector has not been subjected to the kind of analysis of strategy and structure performed on the manufacturing sector. (He is not concerned, of course, with some major segments of the tertiary sector, like professional services, health care, and public administration). For the rest of the first chapter and chapter two, he is concerned with developing his methodology, including its relationships with traditional entrepreneurial theories as well as Galbraithian ideas on technostructure. Some of the results should be eagerly received by economists interested in the theory of the firm, especially those on organizational form. Using admittedly simple statistical testing, his results throw some light on Williamson's multidivisional form hypothesis. The relatively strong performance of multidivisional firms compared to firms with a unitary structure provides support for Williamson's hypothesis about increased dominance of the multidivisional firm. Perhaps potentially more interesting from the British point of view are the results on the poor performance of holding companies and his findings on leadership: family controlled and entrepreneurial firms performed well, while managerial firms did badly. Unfortunately, these results may attract less interest among economists than they deserve because they are not tied to the economic literature on the managerial firm.

The next six chapters examine aspects of strategy and structure for various industries. Each chapter looks at such strategy variables as company expansion by product diversification—whether by acquisition or internal expansion—and the trend to expand international operations. The examination of structure involves not only a description (usually with a diagram) of the organizational form but also a brief interpretation and critique. Finally, both considerations of strategy and structure are brought together in an analysis of financial performance. Most readers will not be interested in every industry studied in these chapters; this reviewer will concentrate on chapter nine, "The State Monopolies."

The utilities, gas, electric, and telephone, are all government owned (nationalized industries) in the U.K. Channon's study of strategy and structure in these industries does bring out a few comparisons with private industry that are worth noting if not altogether new. For example, he notes the difficulty of measuring financial performance and the restricted strategies available to them compared with private industry. They cannot effectively increase their geographic coverage or broaden their product range to any extent. He argues that fostering increased usage is their main strategy for expansion. This is one topic where his approach might, at least semantically, give economists some concern. How would he describe expansion based on technological change or a new pricing technology to develop growth in electricity consumption at off-peak periods? Similarly, in telecommunications what about the possibilities for large scale data transmission and electronic mail, and the possibilities of competition in these areas? Both present important strategic opportunities in the U.S. More obviously different from private industry is the political control over nationalized industries, and Channon is, rightly, critical of the way this has operated. For instance he mentions the failure to apply financial targets, with any consistency, in the industries. He also argues that the method of appointing top managers—by a patronage system—is not the most promising way of obtaining efficient management.

In short, Channon's book will be read by its intended clientele with interest. Others, such as economists interested in industrial organization, the theory of the firm, public utilities, and political economy, could benefit from a selective reading.

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REFERENCES

1. CHANDLER, ALFRED D. *Strategy and structure.* Cambridge, Mass.: M.I.T. Press, 1962.
2. WILLIAMSON, OLIVER E. *Corporate control*

and business behavior. Englewood Cliffs, N.J.: Prentice-Hall, 1970.

700 Agriculture: Natural Resources

710 Agriculture

Distortions of agricultural incentives. Edited by Theodore W. Schultz. Bloomington and London: Indiana University Press, 1978. Pp. viii, 343. $12.95. *JEL 79–0507*

This volume contains the papers presented at a three-day workshop on Resources, Incentives, and Agriculture sponsored by the Midwest Center of the American Academy of Arts and Sciences. Reliance on general equilibrium theory serves as the organizing theme for this excellent set of papers on the analysis of agricultural development in low-income countries.

Part one, "Constraints on Agricultural Production," begins with a chapter by Professor Schultz that is both an introduction and a summary. Largely as a result of public policies, the substantial agricultural production potential of low income countries is not being realized. In particular, policies that undervalue food serve both to restrict production with present technology and to dampen the pace of modernization. The discipline of economics is capable of analyzing the consequences of policy in terms of both efficiency and equity, and economists should retain their role as analysts and educators and not provide rationalization for on-going government policy. Sir Charles Pereira emphasizes that the biological and physical constraints on agricultural development are minor in comparison with those of social organization. In contrast, Howard A. Steppler, in his paper, "Natural Resources and Unsolved Environmental Problems," concludes that concern with social and cultural problems of society will not supplant the need for such critical inputs as water control, additional plant nutrients, and new crop varieties.

The core of the volume is in part three, "Distortion of Incentives," and part four, "International Markets." W. David Hopper's expectation for reductions in distortions in the short-term are pessimistic; rural people in Third World countries are apt to be subject to increasing intervehtions by their governments. The cases of Brazil and South Korea, with high agricultural growth rates under market-dominated environments, provide a basis for long-term optimism. Research needs related to assessing the impacts of price policies are itemized by Gilbert T. Brown. Among the needs are micro-studies of the behavior of the farm-household complex rather than dependence on aggregate data.

Why have policies been adverse to agriculture? Reed Hertford examines three price policies in Columbia and concludes that needs for internal revenue, clumsiness of bureaucratic behavior, and the political power structure all play a role.

Distortion of incentives is a characteristic of the factor market, as well as the product market, in many developing countries. Randolph Barker notes that a number of countries have only recently moved from the land-surplus condition to the labor-surplus condition. Institutions have not yet adapted to this change in resource scarcity in order to provide investment in land infrastructure. Martin E. Abel points out that changes occurring in a country often provide an opportunity to reduce distortions but that a policy research base is needed to respond to such changes appropriately. To conclude section 3, Sir John G. Crawford injects a moderating note by stressing that although price incentives are important, they are not sufficient. Institutional arrangements with public sector support are needed.

The present distortions in the international market prices of agricultural commodities are analyzed by D. Gale Johnson. Even with these distortions, international markets are better indicators of the opportunity costs of production of these commodities than are the domestic prices in many developing countries. Further, much of the instability in international prices results from the efforts of national governments to achieve domestic price stability. Such efforts can concentrate the adjustment to year-to-year shifts in global supply or demand in those countries with relatively free markets.

Although the papers in part five, "Agricultural Research, Education, and New Institutions," do not immediately appear to fit the framework of distortion of incentives, they indeed do. As a group, the papers by Robert E. Evenson, Finis Welch, and Vernon W. Ruttan illustrate the substantial gains in insight that

can be captured by extending the tools of economics to problems that, on the surface, do not appear amenable to economic analysis. This disciplinary penetration is important in unraveling the interactions among the social, economic, and biological constraints on development that are discussed in part one. Evenson's paper on agricultural research institutions treats the critical problem of allocating research support among commodities, ranges of environments, disciplines, and also choices between emphasis on simply adapting existing technology to fit local conditions and the capability to produce new technology. Welch summarizes the evidence on the high returns from investment in the schooling of farmers. Payoffs from such investment are higher when coupled with the generation of new technologies. Following his earlier work with Yujiro Hayami on the influence of relative factor scarcity on the types of technological innovation [1, 1971], Ruttan hypothesizes that institutional innovation responds to rates of change in income flows—social intervention is more likely in periods of declining income flows.

Consistent with the focus on causes of distortion of incentives, G. Edward Schuh in the concluding paper discusses the impact on incentives of policies designed to meet basic needs. He concludes that the trade-off between equity and efficiency in low-income countries is a false dichotomy. Such policies as investment in education for the poor and improved functioning of labor markets may serve to move toward both goals.

This book demonstrates that analytical economics is alive and well and that it is contributing much to our understanding of the process of agricultural development. An approach that emphasizes alteration of such assumptions of welfare economics as initial asset distribution is the topic for another conference. The planners of this conference wisely chose to range broadly within the topic of agricultural development but to employ the core analytical tools of economics.

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REFERENCE

1. HAYAMI, YUJIRO AND RUTTAN, VERNON. *Agricultural development: An international perspective.* Baltimore: Johns Hopkins University Press, 1971.

To feed this world: The challenge and the strategy. By STERLING WORTMAN AND RALPH W. CUMMINGS, JR. Baltimore and London: Johns Hopkins University Press, 1978. Pp. xiv, 440. *JEL 79-0208*

The authors of this book have had a long association with the Rockefeller Foundation, an institution which, among other things, has made major contributions to the development and spread of technological changes in agriculture. Indeed—as the authors point out—it was the pioneering work of agricultural scientists employed by the Foundation in Mexico that helped lay the groundwork for the "Green Revolution" of the 1960's—the introduction, dissemination, and production of high-yielding varieties of wheat, corn, and subsequently rice. The use of these seeds by millions of farmers—large and small—represents one of the most significant diffusions of technological innovation in agriculture in our times. It is this experience that provides the authors with a basic strategy that gives them optimism about overcoming looming food deficits in the developing world.

The book is divided into two parts. The first eight chapters deal with "the challenge"; this includes an overview of current and projected food needs in developing countries and the physical and technological capacity for meeting these needs. The second part deals with the strategy for accelerating food production in developing countries. Perhaps this strategy can be summarized as one in which governments create the necessary conditions whereby millions of individual farmers decide it is in their best interest to increase production. The creation of these conditions will incorporate the provision of services (including research, extension, and training) as well as ensuring that farmers have ready access to inputs (seeds, fertilizer, *etc.*) and that they have profitable outlets for their increased production.

The authors are most comfortable when they deal with operational aspects of agricultural development. The chapter on the postwar evolution of thinking about agricultural development is very informative, even though it is confined largely to a view from the United States. (Very little reference is made to the efforts of

bodies such as the Food and Agriculture Organization of the United Nations or the Commonwealth Development Corporation, or to the research of important bodies such as the Pakistan Development Institute.) The authors also give valuable insight into the problems of organizing and promoting effective agricultural research; they provide a useful analysis of the planned growth of a coordinated system of international agricultural research, a system that represents one of the least known, but most successful, efforts in international cooperation. Then too there is a useful discussion on the world's resource base and the various international aid-giving agencies concerned with promoting agricultural development.

Perhaps the most valuable part of the book for professionals and laymen alike is the long chapter on "forced pace campaigns." This chapter reviews a number of national and localized attempts to accelerate agricultural production. There is a description and analysis of the organizational and technical reasons for the success or otherwise of these campaigns; much of the analysis is unique in that it could only be presented by persons who were directly involved in these campaigns and so know their strengths and weaknesses. This applies especially to the case studies dealing with wheat in Turkey, maize in Kenya, rice in the Philippines, and small farmer programs in Mexico.

This book is strongly recommended for anyone interested in agricultural development and technological change in agriculture. It is a book about increasing agricultural production and focuses largely on the technical aspects of agricultural development. As such it is a valuable complement to the many publications that see the "food problem" as a political-distribution issue. This book reminds us that food has to be produced before it can be distributed; it also reminds us that the same input/output relations prevail in countries of different ideologies and that often soil and weather are as important, if not more important, than politics in determining the nature and levels of output.

The book is also recommended reading for social scientists who are interested in seeing how agricultural scientists approach the problem of agricultural development. There is an almost total absence of anthropological or sociological considerations. Also some major economic issues are given short shift, *e.g.*, the section on cost-benefit analysis (p. 418) is limited to one paragraph and dismisses it as being too narrow a concept to be very useful; similarly the section on comparative economic advantage (p. 269) simply states that cost comparisons may or may not be useful. Finally this reviewer was struck by a breathtaking and, I am sure, totally unconscious quality of "a view from the outside." This can be illustrated in the section where there is a discussion on the importance of the Foundation sponsored research program as a major factor in Mexico's agricultural development: The authors state, *inter alia* (p. 199), "Mexico's own actions have contributed to her progress."

In conclusion it should be emphasized that, despite its flaws, this book represents an important contribution to the literature on postwar agricultural development in the tropics.

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720 NATURAL RESOURCES

Western coal: Promise or problem. By WALLACE E. TYNER AND ROBERT J. KALTER. Assisted by JOHN P. WOLD. Lexington, Mass. and Toronto: Heath, Lexington Books, 1978. Pp. xiv, 184. $18.00. *JEL 79-0221*

This book makes a valuable contribution to a more rational analysis of U.S. government policies for leasing coal and other minerals. While the focus is on surface-minable coal in the Great Plains, many of the lessons are of general interest to students of all aspects of public policy making, as well as to energy specialists.

The analysis begins with presentation of an expanded version of the authors' Monte Carlo simulation model for appraising a wide variety of such leasing policies as different royalty and profit-sharing schemes. The model is well designed to incorporate the relevant variables for investment decision-making.

In order to apply the model to coal, the authors arranged for the development of extensive data for costing surface coal mining. Data were also collected on the characteristics of actual lands considered of enough interest for future leasing that information was available.

The authors first compare eleven different leasing policies. Nine hypothetical mines, considered on the basis of the data on coal lands to be typical of those that would be developed in the West, are defined, and simulations are then made of the average performance of each mine under various leasing policies. The authors concentrate on averages for all mines developed, the number of mines developed, and on the differences under alternative policies in after tax net present value (ATNPV) to the leaseholder. Closer examination shows that they should have also considered the effect of taxes on the *rate* of development and on tax receipts.

As would be expected, increasing royalty rates invariably lowers ATNPV, but at the cost of eliminating or retarding development. Profit-sharing schemes, however, tend to lower ATNPV without retarding development. The authors express concern that their least profitable mine has a higher ATNPV under some profit-sharing schemes than under a low royalty rate. Examination of the details shows that this rise of ATNPV is accompanied by a rise in the present value of government income including income taxes. Profit-sharing produces a considerably higher (98–100 percent) rate of development than the 50.5 percent rate under a 10 percent royalty.

The authors also simulate the variation of costs of selected mine types as mine size varies and show that it is generally preferable to develop larger mines and that limitations set by the federal government on lease size often preclude attainment of optional optimum size.

The authors also discuss several other policy issues, with the greatest paid to the considerable difficulties of implementing a policy of "advanced" (*i.e.*, prior to production) royalties to discourage holding undeveloped leases and of promoting competition for leases by pitting the bidders on any one tract both against their rivals for that tract and against bidders on other tracts. The latter technique—intertract bidding—involves soliciting bids on more tonnage than will ultimately be leased. Bidders then face the risk that they can be outbid either on the coal they sought or because some other land is leased because the bids on it exceeded those on other tracts.

Finally, the authors compare estimates of coal resources to estimates of probable calls upon this coal to determine whether resource availability would imply an inconsistency between anticipated consumption and what was really feasible. They conclude that no such problem would exist if this coal were leased.

A key point to recognize about the analysis is that it can only measure the rent reduction produced by precisely defined regulations such as royalty schedules. The U.S. government has long employed a device to capture additional rent—namely, a competitive bidding process in which lessees make offers of bonus payments in addition to required royalties. Tyner and Kalter are essentially measuring the residual rents that must be captured by the bonus payment. The success of bidding at capturing these amounts is an empirical question that no simulation can resolve. However, the reader should be made aware that observers of the oil and gas case (see *e.g.*, Russell O. Jones, Walter J. Mead, and Philip E. Sorensen [1, 1978]) have concluded competition effectively insures government capture of rents.

Another problem is that data deficiencies forced the authors to limit themselves to only part of the debate over the appropriate levels of leasing. While they can assure us that additional leasing can meet anticipated demand, the authors could not obtain data to deal with the controversy over whether existing leases contain so much coal that additional leases were unnecessary.

This should not obscure the important contribution the book has made in quantification of the implications of the problems associated with radical changes in mineral leasing policy. In an era in which windfall profit reduction predominates policy making, often with a nearly total lack of concern for the efficiency effects, reminders of the perils of policy making are badly needed.

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REFERENCE

1. JONES, RUSSELL O., MEAD, WALTER J. AND SORENSEN, PHILIP E. "Free Entry into Oil and Gas Production and Competition in the U.S. Oil Industry." *Nat. Res. J.* Oct. 1978, 18(4), pp. 859–75.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 Welfare, Health, and Education

The economic status of Australian aborigines. By Jon C. Altman and John Nieuwenhuysen. Cambridge; New York and Melbourne: Cambridge University Press, 1979. Pp. xix, 230. $26.00 *JEL 79–0547*

The purpose of this book is to present information concerning the socio-economic position of the most disadvantaged minority group in Australia—the Aborigine. The study is primarily a descriptive one. No hypotheses are tested, and most of the statistical information presented is based on secondary data sources. This is the first book written by Australian economists on this subject.

The first chapter presents a statistical overview that compares the Aboriginal population as a whole with the entire Australian population. Welfare indicators such as educational attainment, type of housing, income, occupational status, labor force participation rates, and health status are considered. In every category the Aborigine fares badly in comparison with the typical member of the dominant society.

The next three chapters consider the status of Aborigines living in three different circumstances in remote or sparsely settled Australia: government settlements or missions (chapter 2); pastoral stations (chapter 3); and decentralized communities (chapter 4). Some of the important points made in these chapters are briefly discussed below.

Aborigines originally congregated at mission and government settlements due to the availability of food and water. These communities were established partly as a defense against the possible extinction of Aborigine clans. Individuals came to these settlements on a voluntary basis and were subjected to considerable assimilation pressure. It was only after 1972 that a policy of self-determination was substituted for one of assimilation.

Health conditions on these settlements are as unfavorable as those found in the poorest of the developing countries. For example, infant mortality rates in some Aboriginal communities range between 100 and 200 (per 1,000 births). This situation occurs in spite of the availability of modern medical care, free of charge, in these settlements.

None of the communities established by missions or government are self-supporting. Unemployment rates are very high and per capita income is only one-fifth the national average. Most jobs on these settlements are provided by the government and generally are of a menial nature.

Pastoral stations are very large tracts of land owned by white cattlemen. Most of the Aborigines who reside there work as herdsmen or domestic servants. Since 1969 the number of Aborigines employed on pastoral stations has declined partly because of the extension of minimum wage legislation to include Aborigines employed there. Only the Aborigines who live on government and mission settlements are of lower economic status than the inhabitants residing on pastoral stations.

Decentralized communities are being established by those Aborigines who are dissatisfied with life on pastoral stations or government and mission settlements. The residents of these new communities are attempting to recapture their Aboriginal identity and self-esteem. While these communities may become self-supporting in the long run, their primary source of income at present is transfer payments. However, some income is obtained by the production and sale of Aborigine crafts. Two apparent benefits of these decentralized communities are an improvement in the resident's mental health and a decrease in alcohol consumption.

Chapters 5 and 6 consider the socioeconomic position of Aborigines in settled Australia. The former chapter focuses on Aborigines living in rural areas or small towns, and the latter examines the status of Aborigines residing in Australia's major cities.

The major problem that Aborigines face in rural areas and small towns is considerable prejudice regarding jobs and housing. Job training programs have so far been of limited effectiveness in reducing unemployment and increasing income. Partly for these reasons, the economic status of these Aborigines is no better than in remote Australia.

Most Aborigines residing in major cities are fairly recent migrants. Surveys indicate that

greater job opportunities are the most important reason for urban migration. Aborigines who live in large cities possess a higher socioeconomic status than those residing elsewhere. One reason for this is that there is less discrimination against Aborigines in major cities than in other parts of settled Australia.

Aborigine students in settled Australia have considerable difficulty in adjusting to integrated schools in which they form a small proportion of the student population. One reason for this is the disconsonance between traditional Aboriginal culture and the competitiveness of the school environment.

The last chapter considers the economic issues raised by the conditions previously discussed. For example, one important matter concerns the benefits that Aborigines will obtain from the discovery of uranium on Aboriginal lands. This development may greatly change the quality of life of these native residents.

This is a very good book. It is clearly written and the authors' considerable knowledge of Aboriginal affairs is quite evident. One weakness is a limited policy focus. Various government programs that purport to assist Aborigines are briefly described, but little attempt is made to evaluate them or to suggest new programs.

One cannot help but be struck by the similarities of circumstances between American Indians and Australian Aborigines. Both populations are growing rapidly and undergoing the process of urbanization. Aborigines and American Indians experience very high unemployment rates and suffer greatly from infectious diseases and alcoholism. Both groups were adversely affected by assimilationist government programs, and hopefully both will benefit from the present policies of self-determination.

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Health and the war on poverty: A ten-year appraisal. By KAREN DAVIS AND CATHY SCHOEN. Brookings Studies in Social Economics. Washington, D.C.: Brookings Institution, 1978. Pp. xiv, 230. $11.95, cloth; $4.95 paper. *JEL 79-0255*

This book reviews four major health program areas—Medicaid, Medicare, and the Maternal and Child Health Program, and the Neighborhood Health Center Program—all of which were launched as part of the Great Society and the War on Poverty. The book consists of 224 pages, organized into seven chapters constituting a text of 218 pages followed by a 6 page appendix. The seven text chapters include two introductory chapters dealing with "Public Policy and Health Care for the Poor" and "Health, Use of Medical Care, and Income." These chapters are followed by four chapters devoted to reviewing Medicaid, Medicare, Maternal and Child Health, and Neighborhood Health Center programs.

The book's goal is to summarize "basic health and poverty issues" and the programs that "have attempted to break the link between low income and poor health," with an eye toward offering recommendations for "improving individual programs and for the ways in which public policy might be changed so as to make comprehensive health care accessible to all" (p. vii).

The conclusion reached by the authors is that these programs have been successful in increasing access to health care on the part of the elderly and near poor. In covering the decade 1965–74, the authors cite reductions of infant mortality, death rates due to gastrointestinal diseases, influenza, pneumonia, and immaturity among children, both in the aggregate and among certain poverty groups, as benefits of the various programs studied. A substantial financial burden has been lifted from the shoulders of the poor and the elderly; but currently, rising costs, gaps in coverage, and reduction of benefits in the interests of cost-cutting by government has resulted in an inadequate level of financial support of health benefits available to target groups. Administrative decisions resulted in widening gaps in coverage to many of those living in rural areas and others whose incomes are *near* the poverty line. Due to differences in the structure of benefits, Medicaid is responsible for a transfer of funds from southern and rural states to those in the East and West.

The authors recommend that financial incentives be used to deliberately promote deliv-

ery models that provide low-cost, high quality care, through reducing incentives to hospitalize patients, substituting salaried methods of payment for traditional fee-for-service models, and emphasizing primary care. They insist that national health insurance is urgently needed to provide adequate access to health care for the low-income population, asserting that adequate reform of Medicare and Medicaid programs would not be possible without reforming the *entire* health system. The approach to reform is to merge and expand Medicare and Medicaid with uniform coverage for the poor and elderly, incorporating spend-down programs that would reach and assist the "near poor." Uniform fees would be paid to physicians regardless of regional location to encourage a better distribution of health resources. Funds would be set aside for the development of resources in under-served areas. Together with the expansion of grant programs, the reformed Medicare and Medicaid programs would be expanded into a wholly public system covering the *entire* population. In short, the financial basis of health care delivery would be nationalized.

In my view, the book lacks depth and provides sketchy analysis of important health programs that deserve better treatment. The analysis lacks a common basis of comparison. Different types of data are used in the evaluation of individual programs, and the series of data are not of equal length. A common basis of comparison is essential because these programs in many cases overlap and in recent years have interacted a great deal. For example, under Medicaid many states now purchase supplementary medical insurance (SMI) for elderly persons, and nearly all have absorbed an increasing volume of costs associated with nursing home and intermediate care on behalf of the elderly (38 percent or 7 billion of Medicaid outlays in 1977). Thus statements implying that Medicare is underfunded because it pays for only 40 percent of the total health costs of the elderly are rather misleading.

Reduction of infant mortality rates and declines in certain causes of death among infants cited as health benefits are probably largely the result of the increasing use of birth control measures, food stamp programs, and liberalized views toward abortion. Claims by community health centers that infant mortality rates declined after their establishment smack of *post hoc ergo propter hoc* reasoning.

The authors fail to explore the connection between rising health costs generally and the activities of the programs "evaluated." Casual references are made concerning a possible relationship in the chapter on Medicare. However only two studies are cited and the issue is dropped. The private medical sector is damned for many things (correctly, I think), particularly for providing health care at prices that are too costly. Yet when arguing in favor of public provision of health services, per unit costs of government programs are presented as less than those involved in the case of care supplied by the private sector. Such a comparison is tantamount to seeking beauty in comparing a face that is ugly to one that is horrid. The book provides no projections of probable costs or benefits associated with their recommendations.

The study makes a convincing case for the need to reform Medicare and Medicaid and other programs. Although, through no fault of the authors, the study demonstrates that there is an appalling lack of data and information concerning the benefits and costs associated with government health service programs. Such is not the stuff to inspire confidence that it is either necessary or wise to nationalize the finance of the health system.

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Health manpower planning: Principles, methods, and issues. Edited by T. L. Hall and A. Mejía. Geneva: World Health Organization, 1978. Pp. 311. Sw Fr. 50.–, cloth; 44.–, paper. *JEL 79–0258*

One might well ask what possible relevance a book written for developing countries by 16 authors of 13 different nationalities would have for manpower planners in the United States. The answer is surprising: we appear to face virtually the same problems—overemphasis on training specialists and significant numbers of citizens without access to adequate primary care—and yet we in the United States tend

to address these problems with measures that are often far less sophisticated than those in many developing nations.

In the introduction the editors note that in spite of the many efforts at manpower planning, resulting in complex data collection and methodological approaches, the impact of these efforts "on policy formulation and implementation seem to have been relatively small." This is a fundamental concern surrounding not just manpower planning but health and social planning in general. As the editors indicate, there is often an "excessive preoccupation with input rather than output, with the efficiency of component parts rather than the effectiveness of the whole."

This book steps back to set out overall principles of health manpower planning within the contexts of health broadly defined and of social and economic development. A series of 12 chapters outlines both the concepts of manpower planning and specific central issues in manpower—primary care by non-physicians, international migration of manpower, and planning aspects of selected manpower professions. Additional volumes are to be produced later, highlighting the contrasting manpower planning approaches of selected countries and exploring the application of the theories presented in this first volume.

Health Manpower Planning addresses quite directly some of the reasons behind the failures of planning, noting the all too frequent tendency for planners to become technicians insulated from, and thus irrelevant to, real decision-making. The authors instead call for the investigation of planning and the political system and seek to define problems and propose solutions in ways that are acceptable to the major political forces that influence implementation. Rather than searching for ideals, planners must seek through compromise and negotiations to propose pragmatic approaches to manpower issues; they must be willing to accept partial success rather than a technically ideal but unfeasible total solution.

The book is perhaps most useful in presenting a concept that calls for the integration of the planning, production, and management of health manpower attuned to the political environment. This concept is designed to coordinate through an essentially political process measures to force competing organizations to confront each other. This scenario would require an agency such as a State University System, which produces health professionals, to negotiate directly with agencies that manage the health delivery system. These sectors would compete for the same limited services to satisfy often conflicting goals of quality, quantity, and prestige among producers balanced against the needs of the health care system. As the authors state, almost as an aside, to reconcile these diverse interests, "it may be necessary to create a body with higher powers able to elicit cooperation, resolve conflict and prevent competition."

This is the crux of the problem in manpower planning: without any overall controls, the educational establishment, delivery systems and regulatory system seek to fulfill their own goals—often in conflict with each other. Planners can be very knowledgeable about problems and solutions, but without the tools to control the diverse elements of the system, planning will continue to be relatively ineffective.

With this as the key message of *Health Manpower Planning*, I can only hope it finds its way to the highest levels of government.

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Poverty and health: Economic causes and consequences of health problems. By HAROLD S. LUFT. Cambridge, Mass.: Lippincott, Ballinger, 1978. Pp. xvi, 263, $16.50.
JEL 79-0260

Among the nonaged, disability is responsible for 9 to 18 percent of all poverty. For nonaged white men these figures read 23 to 31 percent. These, and many more related, and sometimes striking, results are presented by Harold Luft in his monograph *Poverty and Health: Economic Causes and Consequences of Health Problems.*

After an introduction, sketching the importance and magnitude of the topic, Luft presents a conceptual framework of the relationship between socioeconomic factors and health. This framework is aimed at unravelling the simultaneous relationship between, say, income and health status, by carefully defining

a causal model that runs from "Pathology" via "Impairment" and "Functional Limitations" to "Disability" and the impacts of Disability on, for instance, labor force participation and earnings per hour.

Using this framework throughout the book as his theoretical device, Luft first discusses socioeconomic factors as a cause of health problems. Based on data from the National Health Examination Surveys, Luft tentatively concludes that for many of the currently important diseases in the United States, relatively minor, but significant, negative income gradients can be observed. Since this finding is also obtained using data related to children only, evidence is presented of a causal linkage from factors related with income to pathologies.

In the next step the influence of age, race, sex, education, and income on the probability of disability is studied. Using data from both the Survey of Economic Opportunity and the Survey of Disabled Adults, Luft constructed a cross-section data set from which the probability of disability can be calculated as a function of pre-disability income. Again a negative income gradient is observed, even within age, race, sex, and education groups. Though black men tend to have a higher overall probability of being disabled, a lower probability for blacks is estimated once age, income, and education are held constant.

After studying occupational factors, like "heavy physical labor" and "noise and vibrations" as causes of disability, Luft goes on to the second part of his model, investigating the influence of nonmedical factors on the outcomes of disability: occupational change, earnings, and labor force participation. In general it is shown that someone with more favorable attributes with respect to the labor market (higher education, job tenure, white) will be less affected by the occurrence of a disability than someone with less favorable attributes. Some clear evidence is presented that race plays a very important role in determining the effects of disability. Blacks appear to face a segmented labor market that leads them to exhibit very different behavioral relationships. Less educated blacks face considerably larger problems with adjusting to a disability than well-educated blacks. And, in general, the poor without job tenure face the largest difficulties if they become disabled.

The magnitudes of the economic consequences of disability appear to be very substantial. For instance, almost any degree of disability raises the poverty incidence of nonmarried individuals to nearly 50 percent. And in about 77 percent of all poor, nonaged husband–wife families (in 1966) either the head or the spouse was disabled.

The monograph concludes with a policy chapter dealing with: (1) reducing the incidence of health problems, (2) reducing the severity of health problems, and (3) reducing the impact of disability on family income. Though this chapter merely is a mosaic of existing policy proposals, rather than an integrated proposal dealing with the causes and consequences of disability, policy makers as well as scholars will benefit from the analysis presented in this book.

The magnitude of the effects of health problems is considerable. Luft approaches the causes and consequences of health problems in a well-organized way. By careful examination and reexamination of large data sets, he presents convincing evidence that some people are poor because of their health problems and others have health problems simply because they are poor. The book, therefore is important for workers on both ends of the causal chain: professionals working in the preventive health-care area in its broadest sense and professionals dealing with the causes and consequences of poverty.

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Health care capital: Competition and control: Proceedings of the Capital Investment Conference, sponsored by the University of Pittsburgh, Graduate School of Public Health. Edited by GORDON K. MACLEOD AND MARK PERLMAN. Cambridge, Mass.: Lippincott, Ballinger, 1978. Pp. xx, 411. $22.50.

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These proceedings of a University of Pittsburgh Conference on Capital Investment are extremely worthwhile reading for anyone who expects to be involved in either policy setting or delivering health care in organized settings

in the near future. The conferees were asked to evaluate health care capital financing tradeoffs, experience, and trends in the United States in an effort to determine available options (whether in the government or the private sector) for harnessing the extraordinary projected rise in capital costs, unique today in medical care history.

As might be expected, the conference quickly bogged down on a discourse of the appropriate balance between increasing reliance upon citizen choice with regard to the modality of health success and a growing dependency upon governmental standards to contain the cost of delivery of health services; nevertheless, the papers and the ensuing discussions can be readily grouped into four categories. The first covers both the recent history of health care financing and the current tradeoffs between the free market and regulatory mechanisms; the second examines the effect of human resources and Health Maintenance Organizations on capital formation; the third explains the history and experience of philanthropy and of private corporate investment in the health care industry; and the fourth inspects present and future capital markets for the industry.

Through a series of nine invited papers with discussants' comments after each, the volume identifies a number of concerns surrounding the capital market. The most important would appear to be that:

(1) Private debt financing is playing an increasingly important role in satisfying capital requirements. Great concern is expressed throughout the volume that debt financing may be in jeopardy, since certainty of income flow upon which debt financing depends is subject to mounting public criticism about the ineffectiveness of current reimbursement mechanisms in controlling health care costs.

(2) Large amounts of capital are needed in the formulation of growth of HMO's (Health Maintenance Organizations). The paper describing the financing of the Kaiser Foundation Health Plan documented for the first time the capital investment policies of that most successful type of HMO. The discussions stressed the need for such a nonprofit organization to be allowed to include provision for creating and servicing debt capital in their net income.

(3) Great concern should exist over the current network of regulation, tax exemption, and public subsidy, which has shaped the recent growth of the health care industry.

(4) The conferees identified that current regulations do not provide for cost efficiency. They believe that federal regulation alone is not going to be able to control the costs of the health care industry and that, consequently, new means by government together with the private sector must be found to slow the rate of cost and price increases.

(5) There was a clear call for physicians to improve the organization of practice and to contain the number of services. There was a belief that all sectors of society, including the financial community, are concerned about the poor quality of health financing information, the need for health outcome measures, the rapidly increasing number of physicians, the inequitable distribution of new women and minorities within the health professions, and the confusion over cost/benefit issues.

The conference (and this volume) seems in large part to have accomplished what it set out to do. It was designed to reveal the changing patterns of capital financing of the health care industry in the United States and to explore alternative patterns of capital formation.

What appears most to be missing is the understanding of the epidemiology of medical practice at the local level and its consequences on efforts to change physician behavior and supply, for that is what empirically has been shown to drive the system. This weakness notwithstanding, the conference nevertheless brought together a wide range of professional and health insurance interests, along with commercial and investment backing interests and others who had not previously been participants in this kind of discussion but who are recognized for their imaginative insights.

The prepared papers and the general discussion touched upon most of the spectrum of capital formation—an area that must be considered in developing all future policy related to health care financing.

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Studies in Resource Allocation. By the ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT. Paris: OECD.

No. 1: *Economic implications of pollution control: A general assessment*. 1974. Pp. 78. $4.00, paper. *JEL 78-0533*

No. 2: *Public expenditure on education*. 1976. Pp. 98. $6.25, paper. *JEL 78-0574*

No. 3: *Public expenditure on income maintenance programs*. 1976. Pp. 120. $9.00, paper. *JEL 78-0576*

No. 4: *Public expenditure on health*. 1977. Pp. 136. $10.00, paper. *JEL 78-0272*

No. 5: *Public expenditure trends*. 1978. Pp. 93. $9.00, paper. *JEL 78-1024*

Are government expenditures out of control? Has Leviathan come to pass? Can these questions be answered other than in emotional and ideological terms? A major contribution to a dispassionate, reasoned response is provided by the five OECD *Studies in Resource Allocation* published from 1974 to 1978. They constitute an invaluable comparative analysis of recent trends in public expenditures among developed nations and of prospects for future government outlays. At the same time, discussion of these issues benefits greatly from reference to a few other important current contributions. This review, then, examines the OECD *Studies* along with selected other recent work on growth of government spending.

An Overview of the Issues

The focus here is on four broad issues crucial to the question of whether public spending is "out of control." The first involves the evidence regarding the growth of government expenditures. Do recent trends demonstrate an acceleration of government spending that is a departure from previous norms among developed nations? The second is the vital question of the sources of growth in spending. Is growth largely accounted for by such factors as incomes, prices, and population size that directly reflect or influence citizen-consumer demands, or does a substantial unexplained residual remain, putatively attributable to the structural arrangements under which public choice takes place? The third issue concerns the use of expenditure evaluation for determining whether public spending is excessive. The outcomes of public spending, difficult as they are to specify, would appear to be an integral element in the evaluation of expenditure growth. Yet, some observers reach the conclusion that such growth is excessive without examining either the extent to which these programs accomplish such of their apparent purposes as alleviation of proverty, improvement of health, and reduction of unemployment, or the private uses of resources that would ensue if government spending were not undertaken. The fourth and final issue deals with the future of public spending. Are there self-adjusting elements in the demand and supply of public goods, such as the achievement of goals regarding coverage and service levels or in the increasing burdensomeness of major tax sources, which act as brakes on the expansion of the public sector? Or, are the structural features of the fiscal systems of representative democracies incapable of resisting continuous expansion of the public sector without fundamental "constitutional" changes?

Recent Evidence on the Growth of Public Expenditures

While a comprehensive measure of the public sector would encompass the private costs of government regulation as well as public outlays, the contention at issue here is whether, given the nature of fiscal politics, expenditures themselves are excessive.

Of course, evaluation of trends in public spending requires adjusting nominal expenditures to yield an appropriate indicator of growth. Obvious adjustments include deflation for price level increases, conversion to deflated amounts per capita, and allowance for income growth relative to gross or national product. Recent quantitative studies favor the ratio of government expenditures to gross domestic product as the single most useful comparative measure. This ratio can, itself, be deflated by an index of government prices relative to the GDP deflator.

Morris Beck's response to the contention of accelerated growth of the public sector is a useful starting point [1, 1976]. He reviews changes in the share of total public expenditures in GDP of 13 OECD members between 1950–52 and 1968–70. His findings show that the median undeflated share increased from 23.2 to 30.9 percent. However, because the

price index for government expenditures increased by more than the implicit GDP deflator during the period studied, deflation reduces the latter figure to 22.3 percent. Beck curiously concludes that for these developed countries the real relative size of government expenditures actually decreased. The method of deflation proves crucial to this conclusion, obviously; Elliott Dubin points out that deflating all public expenditures by an index of the cost of government purchases overadjusts because these prices do not apply to transfer payments, which should instead be deflated by the consumer price index [5, 1977]. Dubin recalculates Beck's estimates, deflating transfers properly, and finds that the median share increases from 23.2 to 27.0 percent. Real shares of government spending in the OECD countries, then, did rise between 1950–52 and 1968–70 after all, although Dubin finds no further increases between 1968–70 and 1971–73.

James Buchanan and Gordon Tullock [4, 1977], without disputing Beck's original estimates, contend that precisely because the rise in the median nondeflated expenditure share is converted into a decline by deflation, their view that expenditures are out of control is confirmed. This is so because the growth in public sector wages and salaries causes the expenditure share to rise even when the public chooses not to expand programs.

With regard to evidence on expenditure trends, the OECD *Studies* provide data for a more current period (1955–76), include up to 20 developed countries, break down expenditures into a variety of components, deflate government consumption separately from transfers, and show trends in relative public employment and earnings. What does this mass of information reveal? Undeflated overall expenditure shares were calculated as averages over three-year periods; the unweighted average was 28.5 percent in 1955–57, rose to 34.5 percent in 1967–69, and reached 41.4 percent in 1974–76. By Buchanan and Tullock's criterion these figures may appear to provide the smoking gun that shows that expenditures, if not out of control, are absorbing a significantly increasing share of total product. A somewhat different picture emerges, however, from examination of the three-year average share of government final consumption in GDP. Undeflated, the unweighted average increased only from 13.1 to 16.6 percent between 1962–64 and 1974–76, while in constant 1970 prices the average fell from 15.2 in 1962–64 to 15.0 in 1974–76.

As far as the average composition of public expenditures goes, public consumption's share of GDP rose by five percentage points (from 13.0 to 18.0 percent), all due to rising costs, while the major relative source of increase, transfers to households, increased by 7.3 percentage points (from 8.8 to 16.1 percent). Comprehensive data on the growth of public expenditures for housing and infrastructure, including transportation, are not available for the entire time period. What evidence there is indicates that its share of GDP increased by about one percentage point over the period, an amount similar to the increase for education. Finally, defense expenditures fell from an average share of 4.0 to 2.7 percent, with larger reductions for those countries with initially larger defense shares.

Where does this evidence leave the debate on the growth of public expenditures? It indicates that among the OECD nations over the last two decades average elasticity of total public expenditures in relation to gross product has been about 1.25, while average real growth in the share of government consumption was zero (*Study* No. 5, pp. 12, 18). It shows that in Sweden and the Netherlands public expenditure shares exceed 50 percent of GDP (*Study* No. 5, p. 15). But the evidence also indicates that public expenditure shares and their growth rates vary considerably among countries and that functional area components differ. All this underscores the fact that there has been non-uniform development of public expenditures to be explained by one or another method of analyzing and apportioning the sources of growth.

Sources of Growth in Public Spending

James Buchanan writes, "Economists have devoted much attention to isolating the sources of economic growth, but, surprisingly, they have paid almost no attention to the problem of determining why governments' share in the national economy continues to increase" [3, 1977, p. 3]. One effort to deal with this problem employs *a priori*, deductive reasoning

to the evolution of public expenditures. Well presented by Richard Musgrave [8, 1969, pp. 69–90], the approach identifies a series of factors logically associated with government expenditures and then deduces changes in their likely influence as growth proceeds. In application, the results are invariably ambiguous; aspects of virtually every factor can be suggested that might associate it with both increases or decreases in expenditures over time. Recourse to multivariate empirical analysis is hardly helpful here because time series provide too few observations, and cross-section results among countries at different stages of development cannot be interpreted as indications of the effects of development over time.

An alternative empirical approach is sources of difference analysis. This method decomposes an aggregate into an identity composed of an exhaustive, mutually exclusive set of contributing factors. The OECD *Studies of Public Expenditure on Health, Education,* and *Income Maintenance* use it extensively. For example, the OECD identity for the share of public income maintenance expenditures in GDP is:

$$\frac{YME}{GDP} = \frac{YME}{B} \times \frac{N}{GDP} \times \frac{B}{I} \times \frac{I}{N}$$

where:

YME = income maintenance expenditures
B = number of beneficiaries
I = program relevant population
N = total population

The product of the first two expressions constitutes a transfer ratio; which shows the average benefit in relation to per capita income; the third expression is an eligibility ratio; and the fourth a demographic ratio. For a single year the strategy is to apportion the total share among these contributing factors and, over a period of time, to apportion changes in the share to changes in them. Further, an index of relative prices is applied to the overall change in the share, which separates the effects of a relatively greater increase in public expenditure prices than in the GDP deflator from real increases in benefits.

A prodigious amount of labor has gone into the implementation of this thoughtful approach. In the OECD *Studies* of *Health, Education,* and *Income Maintenance* there are numerous tables showing the apportionment of sources of change from 1962 to 1972 for the same period. These tables are well worth the reader's attention. TABLE 1 presents the identity used for each area, the contributing factors employed in the identity, and the components of the broad expenditure areas to which the contributing factors are applied on a country by country basis.

Space permits presentation here of only the most general of the very extensive results from application of this method. Averages for all countries indicate that between 1962 and 1974 eligibility and demographic growth were the predominant sources of change in income maintenance expenditures; enrollment growth (coverage and utilization combined) and cost increases dominated changes in educational outlays; and, while increases in utilization rates were most influential in spending for health, increases in cost, coverage, and transfer ratios were also important. The importance of increases in costs as a source of growth of expenditures for health and education confirms the presence of Baumol's Disease, *i.e.,* that rising labor productivity in the private goods sector necessitates higher wages in the constant-productivity service sector, particularly in the public sector where labor intensive techniques inhibit growth in productivity to offset rising factor prices. Growth in real income maintenance benefits and in educational service levels were relatively minor sources of growth in spending shares during this period.

The powerful virtues of the method of sources of difference are, at the same time, its major weakness. Because it is based on an identity, all differences or changes are necessarily accounted for by the contributing factors. Consequently, while the OECD method provides an enormous amount of important information, it does not confront the issue of whether structural or other considerations beyond citizens' "legitimate public wants" account for the growth in spending.

Can this matter be resolved? Here, Thomas Borcherding develops an ingenious approach [2, 1977]. The method is similar to Edward Denison's residual technique for separating the influence of factor inputs from advance

TABLE 1

SUMMARY OF OECD ANALYSIS OF FACTORS CONTRIBUTING TO GOVERNMENT EXPENDITURE SHARES

FUNCTIONAL AREA	IDENTITY/CONTRIBUTING FACTORS	COMPONENTS OF TOTAL ANALYZED SEPARATELY
INCOME MAINTENANCE [*Study* No. 3, p. 19]	$\frac{YME}{GDP}=\frac{YME}{B}\times\frac{N}{GDP}\times\frac{B}{I}\times\frac{I}{N}$ (B = program beneficiaries, I = program relevant population, N = population) $YME/B \times N/GDP$ = transfer ratio $\frac{B}{I}$ = eligibility ratio $\frac{I}{N}$ = demographic ratio	Old Age Pensions Child Allowances Sickness Cost Benefits Unemployment Social Aid
EDUCATION [*Study* No. 2, p. 14]	$\frac{EE}{GDP}=\frac{EE}{B}\times\frac{N}{GDP}\times\frac{B}{I}\times\frac{I}{N}$ $EE/B \times N/GDP$ = student cost ratio B/I = enrollment ratio I/N = demographic ratio	Primary and Secondary School Higher Education
HEALTH [*Study* No. 4, p. 15]	$\frac{PHE}{GDP}=\frac{THE}{U}\times\frac{N}{GDP}\times\frac{U}{I}\times\frac{I}{N}$ (THE = total health expenditures; U = No. of times serviced used;) $THE/U \times N/GDP$ = unit service cost ratio U/I = use ratio I/N = coverage or eligibility ratio	Hospitals Medical Services Medical Supplies

of knowledge in accounting for economic growth. Essentially, Borcherding (1) posits a public expenditure demand function; (2) transforms it so that the contribution of each factor to the growth rate of government expenditure is equal to the product of a government expenditure elasticity and the growth rate of the factor; (3) estimates growth in public spending due to demand factors by applying reasonable "guesstimates" of expenditure elasticities, constant over the entire period, to the growth rates of the arguments in his demand function, and; then, (4) concludes that any excess of observed over estimated growth is most probably due to such political factors as fiscal illusion, bureaucracy, and discriminatorily low tax prices paid by median voters.

Borcherding's final constellation of demand factors includes price, income, population, intergovernmental grants-in-aid, and non-federal tax exporting via deductability. He assumes elasticities of −.5 for price, .75 for income, and .1 for grants-in-aid. The elasticity for population raises a conceptual issue. If governments spend for pure jointly consumed public goods, then population *per se* should have no effect on demand and its elasticity should be zero. If, on the other hand, government spending provides goods, all of whose benefits are subject to private appropriation, then an elasticity of about one is suitable. For this exercise Borcherding uses a coefficient of "capturability" of .50. Application of these elasticity coefficients to observed growth rates of the variables in the United States from 1902 to 1970 produces an estimate of the growth in public expenditures that is approximately one-half of the actual growth, leaving a substantial residual to the political factors.

Borcherding's essay is a tentative and speculative endeavor. As with Denison's method it offers the critic a chance to introduce his or

her own estimates of elasticities or additional variables along with their presumed elasticities. Applied to government spending, however, this approach contains no limiting framework for the inclusion of explanatory variables and the establishment of elasticity coefficients analogous to that of total quality-adjusted factor inputs and the relation of the magnitude of factor elasticities to assumptions about competition and the form of the aggregate production function as found in studies of sources of economic growth. Consequently, in speculating about the sources of residual expenditure growth, before conceding them to deficiencies in the structure of fiscal politics, one can point to the downward bias of elasticity coefficients derived from cross-section studies and the omission of important demand factors. For example, interdependencies such as congestion are rejected by Borcherding, except for their reflection in price and income effects, as unproved sources of growth in government spending. Further, determinants of government transfer payments to households, which amount to one-third of government's share in 1970, are not explicitly included. It is not obvious how a rate of change in a variable could be introduced to capture redistributional objectives. Perhaps the coefficients for income and population change as preferences and needs for such transfers change over time. The low elasticities used by Borcherding for these variables, derived almost exclusively from cross-section studies of state and local government spending, surely would not capture such contributions.

The analyses of sources of growth discussed above presume that the public sector is activated by individual maximizing behavior. Marxist thinking on expenditure growth in capitalist societies stresses conflict between the working and capitalist classes and rejects the neoclassical approach rooted in individual maximization because it "appears as an attempt to explain the essentially historical phenomenon of public expenditures without acknowledging any historically specific determinants of that phenomenon" [6, Foley, 1978, p. 236]. As regards a Marxist approach to accounting for the contemporary growth in public expenditure in capitalist countries, Duncan Foley objects to the deductive functionalism of the standard Marxist view. He contends that it is not enough to show logically that public expenditures contribute to the reproduction of capitalist social relations. A satisfactory explanation requires careful, empirical analysis of " 'what is necessary for the reproduction of the system' " and "the mechanism by which 'needs' are transformed into actions" [6, 1978, p. 224]. As yet, according to Foley's survey, methods for such Marxian analysis have not emerged, although some empirical work in this tradition has been done.

Attainments and Achievements of Expenditures

In addition to finding residual sources of growth, those who most vigorously contend that government spending is out of control appeal to rising expenditure shares and to theoretical models that conclude that the constraints embodied in contemporary fiscal institutions create biases in favor of expansion of public expenditures on the part of maximizing voters, elected officials, and bureaucrats. They do not concentrate their concern or express particular interest in changes in the social conditions toward which the programs financed by expenditures are directed. It appears that concern and criticism of lack of achievement by public spending is far more often expressed by those who accept the possibility of a growing public sector, but insist on evaluating the programmatic components of government spending.

Each of the specific OECD *Studies* of *Health, Education,* and *Income Maintenance* contains a survey of attainments or achievements in their respective program areas. What influences have the increased coverage, transfer, and benefit ratios of public spending had on the economy and society? The difficulties of apportioning sources of change of expenditures are as nothing compared to the problems of relating social states to such underlying determinants as government programs. Time trends do show evidence of improvement in indices of morbidity and mortality, reduction in relative poverty, and higher educational levels among the population, which may be interpreted as tangible indications of the fruits of public programs.

Whether these and other effects have fur-

ther economic and social consequences in terms of labor productivity, technological growth, and social cohesiveness are, of course, unresolved issues subjected to much, as yet inconclusive, investigation. The OECD *Studies* do not delve into these matters. They are mentioned and, particularly as regards the distribution of benefits by social class, recognized as vital determinants of a balanced evaluation of public spending. Still, for example, there is no effort to demonstrate the achievements of public spending by recourse to the results of benefit/cost studies of specific health or education programs. Nor, do the OECD *Studies* refer to the contribution of these or such other public programs as support for pure and applied research as indicated in studies of the sources of economic growth. At the same time, those who assert that the verdict is in and that expenditures are excessive do not appeal to these or similar studies of the contributions of public programs or lack thereof to past economic growth or other social outcomes. For them, it is demonstration enough that rational behavior under contemporary rules for collective choice are biased in favor of excessive public spending and that empirical studies support this contention in finding that fiscal behavior is a function of fiscal institutions. Finally, neither the OECD nor the critics of public spending speculate about the probable private uses of resources diverted from the public sector if expenditure shares were to be decreased or held constant. Benefit/cost analysis, by treating cost as the value of foregone benefits, does engage in such comparison, but is not suited to deal with redistributive effects.

Public choice adherents remain unconvinced that "there is no escape from the necessity of using some 'end-state' criteria of the social good . . ." [7, Gordon, 1976, p. 587]. Yet, it seems illogical to conclude that shares must be reduced without knowing what would be gained and lost and by whom.

Projecting Public Expenditures

The logic of program evaluation, however, must be confronted with the realistic possibility that even if it were possible to initiate or maintain programs only if they passed muster under examination of their costs and consequences, governments' share could continue to grow. What potential limits to public spending are there, and how can they be expected to operate in the next decade or so?

The OECD *Studies* point to two sorts of constraints. One is that various contributing factors have reached levels such that the fulfillment of needs makes further increase unnecessary and, hence, unlikely. For example, the coverage and transfer ratios for public hospital care in Australia, Denmark, and Sweden had reached 100 percent by 1974 and, thus, will not contribute to further growth in public spending. The second limitation stems from considerations of finance rather than demand. The possible restraint here is that the indexing of direct taxes, which has occurred or will soon take place in response to the rise in real tax rates due to inflation, has seriously reduced prospects for further increases from these sources and that the usual resistance to indirect taxes will prevent recourse to them for additional revenues.

With regard to the first limitation, the OECD *Studies* offer only modest assurance. Health, education, and income maintenance expenditures are projected in detail by applying various assumptions to the contributing factor ratios, and more cursory projections made for public housing and urban infrastructure. For education and income maintenance, the major source of potential increase in expenditure shares for the OECD countries stems from higher benefit levels. On average, benefits for health expenditures are not projected to increase. Still, for the three expenditure categories, demographic factors alone will raise the expenditure share by some 1.8 percentage points and eligibility changes to approximate best-county practice raise this to 3.4 points. To these must be added effects of the likely increases in benefit ratios.

To hold the share of expenditures constant under these pressures would require no increases or even decreases in spending for other purposes and full-employment growth of GDP. Yet, OECD *Study* No. 5 points out that while some areas of conventional spending may be cut back or serviced by transfer to the private sector, it is improbable that on the whole housing, transport, urban infrastructure, manpower, and industrial assistance programs will be held to current levels of spending. Conse-

quently, the *Study* concludes, "the most likely outcome for future public expenditure is that it will tend to increase its share of resources in the long run, although the change may be fairly slow and very probably not as fast in most countries as it has been in the last ten to fifteen years" (p. 37).

What of the tax constraint? Will it inhibit the scenario of the projections? The OECD analysis in *Study* No. 5 suggests that in some countries the progressivity of direct taxation is a serious factor in diminishing work effort and contributes to inflation because it is passed along in increased wages and prices. These elements may force tax reduction or stimulate taxpayer revolt. Still, the study finds that there are low-tax countries in the OECD (including the U.S.) where further increases in taxes are likely to be met with less resistance (p. 58). A rather forlorn hope is held out for devolution as a development that might hold spending down, but then, properly, the study concludes that this effect depends on the unlikely circumstance of the lower levels of government being responsible for raising their own revenues.

Conclusions

It is tempting to conclude that the next decade will provide the key test of whether the government's share in national product in representative democracies will stabilize without major reform of fiscal constitutions and institutions. Over the period from 1962 to 1976, transfer, coverage, and eligibility ratios rose to approximate norms for most countries in which they started the period at inordinately low levels. Pressures against increased tax rates are particularly great in those countries with the highest current expenditure shares. Thus, the next decade might reasonably afford a clear test of the limiting influence on public spending emanating from meeting of basic needs and the resistance of suppliers of finance.

This possibility for a natural experiment, however, is not really in the offing. A series of major developments, which have emerged in the past few years, are likely to increase greatly during the next few decades and undermine the general constancy of other factors necessary for even the crudest of natural experiments in the economic arena. These emergent factors include the interrelated matters of environmental concerns such as pollution and occupational health and safety, conservation of fixed energy sources and the search for new sources, and the maintenance of world order in the face of nuclear proliferation. These elements all create conditions that require collective choices. Some aspects may be better handled by regulations that impose costs on private producers rather than direct public expenditures. (OECD *Study* No. 1 provides a survey of international responses to pollution control, which covers many of these issues.) Nevertheless, their emergence places the public sector even more in the center of determining how we and our successors shall live on and transmit our planet.

This makes it all the more important that we understand the significance and implications of the factors that underlie the evolution of government expenditures, their effects, and the influence of the rules under which they are determined. Studies like that of the OECD are a vital contribution to this task, as are the studies and questions posed by the public choice school. The problems of the future are, however, too serious for ideological dispute and too potentially dangerous for the adoption of untested and untried discontinuous fiscal reform which, while designed to prevent unrepresentative expenditures, well might inhibit imaginative and necessary public responses to new and unpredecented demands on collective decision-making.

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REFERENCES

1. BECK, MORRIS. "The Expanding Public Sector: Some Contrary Evidence," *Nat. Tax J.*, March 1976, *29*(1), pp. 15–21.
2. BORCHERDING, THOMAS E. "The Sources of Growth of Public Expenditures in the United States, 1902–1970," in *Budgets and bureaucrats: The sources of government growth.* Durham, N.C.: Duke University Press, 1977, pp. 45–70.
3. BUCHANAN, JAMES M. "Why Does Government Grow," in *Budgets and bureaucrats: The sources of government growth.* Edited by THOMAS E. BORCHERDING. Durham,

N.C.: Duke University Press, 1977, pp. 3–18.

4. ——— AND TULLOCK, GORDON. "The Expanding Public Sector: Wagner Squared," *Public Choice,* Fall 1977, *31,* pp. 147–50.
5. DUBIN, ELLIOTT. "The Expanding Public Sector: Some Contrary Evidence—A Comment." *Nat. Tax J.,* March 1977, *30*(1), pp. 95–96.
6. FOLEY, DUNCAN K. "State Expenditures from a Marxist Perspective," *J. Public Econ.,* April 1978, *9*(2), pp. 221–38.
7. GORDON, SCOTT. "The New Contractarians," *J. Polit. Econ.,* June 1976, *84*(3), pp. 573–90.
8. MUSGRAVE, RICHARD M. *Fiscal systems.* New Haven and London: Yale University Press, 1969.

Equalizing access to nursing services: The geographic dimension. By FRANK A. SLOAN. Health Manpower References. DHEW Publication no. HRA 78–51. Hyattsville, Md.: U.S. Department of Health, Education, and Welfare; Public Health Service; Health Resources Administration; Division of Nursing, 1978. Pp. viii, 252. Paper. *JEL 79–0266*

This study expands Frank A. Sloan's U.S. Public Health Service–sponsored research on the geographic distribution of professional nursing services [2, 1975]. In contrast with the comparatively nontechnical approach of his previous work, the new study interweaves economic and econometric theory to analyze geographic differences in the delivery of registered nurse (RN) services for the purpose of developing recommendations to improve accessibility in underserved areas. Single equation models are designed to help policy makers construct the optimal compensation package and occupational environment necessary to attract and maintain an adequate number of qualified nurses. Data for the quantitative analyses are from surveys of registered nurses and hospital directors of nursing, information reported by nurses and their families for the 1960 and 1970 Census of Population, and the 1973 Survey of Employment Opportunities for newly licensed nurses conducted by the National League for Nursing. The units of observation alternate between individual hospitals and registered nurses.

Regression techniques are used to investigate spatial variations in RN staffing, sensitivity to wage and fringe benefits, migration patterns, willingness to relocate, job turnover, retention, labor force participation, and hours worked. Certain findings are not very surprising; others are, and undoubtedly will stimulate additional discussion and research. Many findings are likely to be useful for both scholarly and policy making purposes, including the following: RN employment in different geographic areas varies inversely with RN compensation relative to that paid for other types of nurses; the demand for acute hospital care affects positively RN employment; hospitals exercise little monopsonistic power in the nurse market, and unions have exerted only a nominal impact on RN wages and employment; the philanthropic wage hypothesis[1] is rejected; access to cost reimbursement encourages hospitals to hire additional professional nurses; RN's are unlikely to migrate for financial reasons and, at least during the early stage of their careers, tend to be attached to the state where they receive their training; husband's earnings play a crucial role in determining whether a nurse remains in the labor force; labor force participation rates for and hours worked by unmarried nurses are generally insensitive to financial incentives; nurses are less resistant to working in rural areas than inner cities; and nurses locational preferences are independent of whether they have an associate, baccalaureate, or diploma degree.

As Sloan generally recognizes, the examination of the inequities in the prevailing-distribution of registered nurses has several limitations. First, without specific criteria to establish the optimal distribution of nurses and concrete evidence that the existing utilization patterns are coincident with health needs, one cannot assess the adequacy or appropriateness of observed staffing patterns across hospitals. Second, analyzing RN staffing within a partial equilibrium framework downplays the possible substitution of non-RN hours for RN hours, assumes away important questions about the cost

[1] *i.e.* That hospital administrators increase staff welfare by paying wages higher than necessary to attract workers. Here the hypothesis is that nonprofit hospitals pay higher wages than proprietary hospitals.

effectiveness of alternative treatment modalities, and is relatively oblivious to interactions among sectors of the health industry. Third, the units of observation, while preferable to conventional statewide measures, are not only too small but are also at variance with the planning and decision-making units currently required by the National Health Planning and Resources Development Act (P.L. 93–641). Fourth, limited attention is paid to demand variables in explaining staffing differences, as well as in discussions of policies to influence nursing labor supply. Fifth, the estimated parameters and standard errors might change significantly if the equations were specified differently and hospital occupancy rates were included in the analysis.

Sloan presents his recommendations at the end of each chapter amid summaries of his findings. In general, they are not as specific nor as clearly identified as many policy makers might prefer, but instead are steeped in careful qualifications. His major conclusion seems to be that since professional nurses are highly immobile and unresponsive to economic incentives, the most reliable way to ameliorate geographic disparities in the distribution of RN services is to expand nurse training programs. Sloan estimates that a doubling of class size in a state would on average augment nurse staffing in hospitals in that state by about 15 to 20 percent (p. 49).

Sloan focuses on the maldistribution of nursing services; little is said about the possibility of altering the distribution of training programs, nor is the prospect of their selective cutbacks discussed, but that is another book. Sloan is fairly reticent about the desirability and efficiency consequences of altering the level or composition of types of nurse training programs, the prevalance and magnitude of RN shortages at the national level, and whether scholarships and education subsidies should be awarded only to persons who otherwise would not have pursued a nursing career.

Since the survey data were collected, several things have happened which may have at least partially reduced geographic variations, such as a 25 percent increase (1972–77) in the number of registered nurses, greater emphasis on labor force participation and career orientation among women, and the physician/nurse-attracting implications of the recent income gains in less affluent states and expansion of Medicaid coverage via the Supplemental Security Income program. These factors may help to explain why the Carter Administration recommended cutbacks in the 1979 and 1980 appropriations for federal nurse training assistance, and the more recent 1977 National Sample Survey of Registered Nurses concludes that geographic mobility is an important characteristic of nurses [1, 1979].

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REFERENCES

1. *The American Nurse.* "ANA Sample Survey Offers Profile of RNs," April 20, 1979, *11*(4), p. 1.
2. SLOAN, FRANK A. *The geographic distribution of nurses & public policy.* Washington: U.S.G.P.O., 1975.

930 URBAN ECONOMICS

Housing costs and government regulations: Confronting the regulatory maze. By STEPHEN R. SEIDEL. New Brunswick, N.J.: Center for Urban Policy Research, 1978. Pp. xvi, 434. $17.95. *JEL 78–0859*

Writing in *The New York Times* of 17 December 1978, Murray L. Weidenbaum, Director of the Center for the Study of American Business at Washington University, St. Louis, poses the question: "How much regulation is too much?" He points out that, while government imposition of socially desirable requirements on business through the regulatory process may "at first blush" appear inexpensive, the processes of regulation are intricate and engender substantial costs of compliance. Enumerating the diverse costs of regulations to the purchaser of a new home, Weidenbaum uses a figure of $2,000 on the average to arrive at an annual "hidden tax" on new-home buyers of approximately four billion dollars.

> Inspection fees, building permits, extremely detailed environmental impact studies, and the higher financing costs to cover the inevitable delays in obtaining approvals by a galaxy of governmental agencies—all these add at least

$2,000 to the cost of the average new house (other estimates are far higher). With almost 2 million new homes being built a year, regulation constitutes a hidden tax of approximately $4 billion on new-home buyers.

In *Housing Costs and Government Regulations*, the potential excess costs of governmental regulation are estimated at $9,844 for a $50,000 single-family home. "In this instance," contributing author Kristina Ford says, "19.7 percent of the purchase price of a house may be related to governmental regulatory excesses of one form or another" (p. 335).

By reducing lot size of the $50,000 home from 1/2-acre to 1/4-acre, the excess cost of governmental regulation is computed at $7,566 or 15.1 percent of purchase price. By also decreasing the number of bedrooms from three to two on the 1/4-acre lot and dropping the purchase price from $50,000 to $40,000, the excess cost imposed by government regulations falls to $5,792, or 14.5 percent of purchase price (Exhibit 13, pp. 336–39). While these computations may seem like a game of numbers, the costs are real indeed, as forcefully demonstrated by Seidel and his colleagues at the Center for Urban Policy Research, a part of Rutgers, the State University of New Jersey.

With the express purposes of obtaining hard data for documenting and analyzing the effects of government regulations on the production costs of new homes, extensive survey work and interviews were undertaken by the Rutgers group. With the cooperation of the National Association of Home Builders (NAHB) and the Urban Land Institute (ULI), a mail survey was administered to 26,000 NAHB members and 7,000 ULI members. From approximately 2,500 returns of both member groups, 400 firms were randomly selected for detailed interviews by telephone. In addition, 300 public agency officials at all levels of government were interviewed regarding the regulatory functions performed by their offices, relevant to existing building codes as well as zoning and subdivision codes and practices. Finally, four case studies of specific residential construction projects were undertaken in California, New Jersey, and North Carolina, in order to provide a closer perspective on how the regulatory process functions and observe its impact on the housing industry.

The first section of the book provides an overview of the housing market, housing industry, and array of government regulations, culminating in a conceptual framework for defining and analyzing the impact of regulations. The second section focuses on those areas of regulations that are held to affect significantly the cost of housing. Seven basic areas are examined in detail: building codes, energy codes, subdivision controls, zoning regulations, growth controls, environmental restrictions, and financing regulations. The third and final section of the book summarizes the findings and proposes recommendations to make government regulations more effective and simultaneously less burdensome to the housing industry.

The concept of overregulation is developed by Kristina Ford in her solo chapter titled "Afterword—A Guide to Cost Conversion," which precedes the appendices and selected bibliography. A strict definition of overregulation is adopted for purposes of measurement, *i.e., "those forms or variations of governmentally imposed controls which exceed minimum health, safety, and welfare considerations in the provision of housing"* (p. 317). Professor Ford emphasizes that the definition used is a severe one, admitting only minimal standards for health and safety. Further, for any particular development, there may not be as many development controls affecting the property as used in the examples. Consequently, these factors may lead to an overstating of the total cost associated with excessive governmental regulation. In other words, the examples used would apply to the "worst case," in which a municipality has every one of the excessive requirements in effect. Regardless of possibility of exaggeration in the housing costs of regulations, it is hard to disagree with the concluding observation that "perhaps the most valuable result of the study is its usefulness as a guide to the potential cost impact of governmental regulations on savings that could be realized if specific reform suggestions were undertaken" (p. 342).

In addition to the costs of unnecessary or excessive requirements, the major categories

of the costs of regulations are divided into direct costs and the costs of delay and uncertainty. The four case studies conducted as part of the overall study followed the broad framework of costs set forth in the three major categories. Case study no. 1 (New Jersey) found the direct costs of regulations to be $1,200 a unit; the costs of delay, $400; and the costs of unnecessary requirements, $1,700. Government regulations thus accounted for $3,300, or 8.7 percent of the final selling price of each unit (p. 53). The other three case studies, two in North Carolina and one in California, demonstrated the interaction between government regulations and the marketability of the units. "They showed that unless all of the many pieces of the development puzzle come together at exactly the right time, the viability of the project will be in jeopardy" (p. 68).

Putting all the pieces together, chapter 12 (pp. 303–15) makes some solid observations and common sense recommendations. "In the final analysis, the principal problems of the industry, and the cost increases imposed by many government regulations, seem to arise when those who promulgate such rules lose sight of why they are doing what they do and the human environment in which they do them" (pp. 303–04).

Contrary to an expectation that less regulation is better, this book points to areas in which the government must intervene in the housin industry. It also attempts to point out the area in which government regulations are counter productive to the common good. "When suc regulations drive up the cost of housing, the do more than a disservice to the housing indus try. They unnecessarily deprive American reasonable access to a reasonable home (p. 304).

Disregarding the surprisingly low respons rate to the national mail survey and a probabl overstatement of excessive costs of regulations there is obvious merit in this pathfinding study The housing industry and government regula tors need to review the recommendations an to take necessary steps to reduce unnecessar costs.

Home buyers, the housing industry, and gov ernment agencies are likely to profit from th findings and recommendations. Urban econo mists, housing specialists, and city planners among others, may also be challenged to inves tigate the next steps to strike a balance be tween costs and benefits. One day more hous ing may be provided to more people, with out uncertain delays and without many of th "hidden taxes" now levied on new hom buyers.

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New Books: An Annotated Listing

Classification System for Books

000 General economics; Theory; History; Systems
- 010 General economics
- 020 General economic theory
- 030 History of thought; methodology
- 040 Economic history
- 050 Economic systems

100 Economic growth; Development; Planning; Fluctuations
- 110 Economic growth; development; and planning theory and policy
- 120 Country studies
- 130 Economic fluctuations; forecasting; stabilization; and inflation

200 Quantitative economic methods and data
- 210 Econometric, statistical, and mathematical methods and models
- 220 Economic and social statistical data and analysis

300 Domestic monetary and fiscal theory and institutions
- 310 Domestic monetary and financial theory and institutions
- 320 Fiscal theory and policy; public finance

400 International economics
- 410 International trade theory
- 420 Trade relations; commercial policy; international economic integration
- 430 Balance of payments; international finance
- 440 International investment and foreign aid

500 Administration; Business finance; Marketing; Accounting
- 510 Administration
- 520 Business finance and investment
- 530 Marketing
- 540 Accounting

600 Industrial organization; Technological change; Industry studies
- 610 Industrial organization and public policy
- 620 Economics of technological change
- 630 Industry studies
- 640 Economic capacity

700 Agriculture; Natural resources
- 710 Agriculture
- 720 Natural resources
- 730 Economic geography

800 Manpower; Labor; Population
- 810 Manpower training and allocation; labor force and supply
- 820 Labor markets; public policy
- 830 Trade unions; collective bargaining; labor-management relations
- 840 Demographic economics
- 850 Human capital

900 Welfare programs; Consumer economics; Urban and regional economics
- 910 Welfare, health, and education
- 920 Consumer economics
- 930 Urban economics
- 940 Regional economics

Annotated Listing of New Books

Editor's Note

Our policy is to annotate all books which are sent to us. On rare occasions, when a book has been published and brought to our attention but we have not received it from the publisher, we will write and request a copy. In future, if a book is published and would be of interest to our readers and an annotation does not appear six months after the publication date, please write to us concerning the book. Our staff is too small to monitor and order all books that are published here and abroad.

000 General Economics; Theory; History; Systems

010 General Economics

ALBRECHT, WILLIAM P., JR. *Microeconomic principles.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. x, 433. $9.95. *JEL 79-0867*

Undergraduate microeconomics text. Topics covered include: aspects of the market system and capitalism, consumer demand, cost, pure and imperfect competition, agriculture, market power, regulation, ecology and economics, health, factor markets, labor, poverty, equality, international trade and exchange, and economic policy. Provides commentaries highlighting applications of material presented. The author is Associate Professor of Economics at the University of Iowa. Index.

ASSOCIAZIONE BANCARIA ITALIANA. *Bancaria: Indici trentennali, 1947–1976.* Rome: Author, 1977. Pp. 604. Paper. *JEL 79-0868*

Italian language index of original research, notes on legal decisions, reviews of papers, and articles that have been published in *Bancaria* between 1947 and 1976. In five parts: author index; index of articles by industry and commodity classification; reviews of jurisprudence arranged chronologically by date of the decision; index of book reviews, by author of the book; and analytical index.

CRAIG, ELEANOR D. *Study guide to accompany "Dollars and Sense: An Introduction to Economics."* Second edition. Glenview, Ill.: Scott, Foresman, 1979. Pp. 105. *JEL 79-0869*

Study guide for Marilu Hurt, McCarty's text. Each chapter in the guide parallels a chapter in the text and contains a capsule summary, fill-in-the-blank review of the chapter, self-evaluating exercises and applications, a chapter test (true-false and multiple choice), and answers. The author is Associate Professor of Economics, University of Delaware. No index.

FINNIN, WILLIAM M., JR., AND SMITH, GERALD ALONZO, eds. *The morality of scarcity: Limited resources and social policy.* Baton Rouge and London: Louisiana State University Press, 1979. Pp. xi, 136. $10.95. *JEL 79-0870*

Eight essays, six previously unpublished and two previously published in different forms, by scholars from the sciences, theology, social ethics, and economics, on ethical awareness and global interdependence, originating as a discussion series sponsored by Louisiana State University's Project on Science and Social Policy during the 1976–77 academic year. Papers by economists include Kenneth E. Boulding on values and preferences and Herman E. Daly on the fundamental moral values and scarcity of actual resources. Other topics covered are: "lifeboat ethics" (Garrett Hardin), the realistic possibilities of increasing per capita food production (Robert Chandler, Jr.), medical ethics in the industrialized world (Harmon L. Smith), morality and foreign policy (John C. Bennett), and the role of business, academia, government, and the church in ecological problems (Donald W. Shriver, Jr.). An epilogue provides a brief history of Malthusian thought from 1800 to 1962, by Gerald Alonzo Smith. The editors are Director and Research Associate, respectively, of the Project on Science and Social Policy. Index.

FREEMAN, RICHARD B. *Labor economics.* Second edition. Foundations of Modern Economics Series. Englewood Cliffs, N.J.: Prentice-Hall, [1972] 1979. Pp. viii, 200. $13.95, cloth; $8.95, paper. *JEL 79-0871*

A supplementary and/or introductory text for principles of economics courses. This edition includes new material on the economics of time,

unemployment and wage inflation, labor demand, the job market for college students, grievance and arbitration, and a completely new chapter on the role of government in the labor market. [See *JEL no. 72–0570* for annotation of original edition.] The author is Professor of Economics at Harvard University. Index.

HAYEK, F. A. *Law, legislation and liberty: A new statement of the liberal principles of justice and political economy.* Volume 3. *The political order of a free people.* Chicago: University of Chicago Press, 1979. Pp. xv, 244. $14.00. *JEL 79–0872*

Final volume in the author's study of the bases for political order in present-day "democratic" countries and of the alternative arrangements [see *JEL nos. 74–0395* and *77–0305* for annotations of volumes 1 and 2]. Begun seventeen years ago, the whole work is "inspired by a growing apprehension about the direction in which the political order of what used to be regarded as the most advanced countries is tending." The set of volumes, together with the author's *Denationalisation of Money* [see *JEL no. 77–0128*], sketches "a guide out of the process of degeneration of the existing form of government," and the present volume offers "a proposal of basic alteration of the structure of democratic government . . . meant to provide a sort of intellectual stand-by equipment for the time . . . when the breakdown of the existing institutions becomes unmistakable." Together the volumes give details for the author's modern restatement of the traditional doctrines of classical liberalism found in *The Constitution of Liberty* [see *JEL no. 79–0004*]. The author holds the 1974 Nobel Memorial Prize in Economics. Cumulative author and subject indices for volumes 1–3.

HARVEY, CHARLES. *Macroeconomics for Africa: The elementary theory of the working of present-day African economies, illustrated by examples taken mainly from the economy of Zambia.* Studies in the Economics of Africa. Exeter, N.H.; London; Nairobi and Lusaka: Heinemann Educational Books, 1977. Pp. xv, 240. $8.50, paper. *JEL 79–0873*

Macroeconomic text written for English-speaking African students, using mainly a Zambian context. Covers the standard topics excluding trade cycle theory. "Western" theory and standard approaches are modified to deal with African situations. Knowledge of simple algebra and graphs is assumed. The author, a Fellow of the Institute of Development Studies, University of Sussex, is on secondment to the Bank of Botswana as Assistant Director of Research and is lecturing at the University of Botswana. Index.

KUZMITS, FRANK E., ed. *Leadership in a dynamic society.* Foreword by HAROLD S. GENEEN. The ITT Key Issues Lecture Series. Indianapolis: Bobbs-Merrill Educational, 1979. Pp. xvi, 75. $9.95, cloth; $4.95, paper. *JEL 79–0874*

Six previously unpublished lectures, by representatives of academia, private enterprise, the public sector, and voluntary associations, on leadership and its relation to the needs of society, originally presented at the ITT Key Issues Lectures held at Atlanta University in the fall of 1977 and spring of 1978. John B. Miner examines the predicted shortage of managerial talent for the 1980's; Earl G. Graves looks at the business sector's swing to conservatism and its effects on minority groups; Samuel C. Jackson evaluates the federal government's role in handling urban problems; and George S. Odiorne discusses the utilization of human resources in the corporate organization emphasizing the development of leadership. Also includes: Vernon E. Jordan, Jr., on government leadership and its part in reviving the deteriorating central cities and Dean Rusk on the motives, ideals, and traits of a successful leader. The editor is Assistant Professor of Management, Graduate School of Business Administration, Atlanta University. No index.

LINDBLOM, CHARLES E. AND COHEN, DAVID K. *Usable knowledge: Social science and social problem solving.* New Haven and London: Yale University Press, 1979. Pp. viii, 129. $10.00, cloth; $3.95, paper. *JEL 79–0875*

An investigation into social problem solving, policy making, policy analysis, and the role of social science and social research, not only in government but in business and in other private activities. A major theme is that "social science and social research are only weakly understood by their own practitioners . . . and that the practice of them is crippled by that misunderstanding." Discusses the relation of "Professional social inquiry" (PSI) to social problem solving, the "mistaken pursuit of authoritativeness" and its alternatives, and the development of guidelines for the use of PSI in the choice and construction of research projects. The authors are Sterling Professor of Economics and Political Science at Yale University and Professor of Education and Social Policy in the Harvard University Graduate School of Education. Bibliography; index.

LUTZ, MARK A. AND LUX, KENNETH. *The challenge of humanistic economics.* Introduction by KENNETH BOULDING. Menlo Park, Calif.; London; Amsterdam and Sydney: Benjamin/Cummings, 1979. Pp. v, 337. Paper. *JEL 79–0876*

Textbook designed as supplementary reading for the beginning economics student. Part one introduces the concept of humanism *vis-à-vis* psychology and economics and traces humanistic or need-based economics historically. Part two critically examines modern economics, including the concepts of revealed preference, lexicographic orderings, and Pareto optimality. Part three develops the humanistic economic system, the primary thesis of which is that "economics as a science should promote human welfare by recognizing and integrating the full range of basic human values" and applies it to problems of poverty, growth, and management of the workplace in the advanced economies and in the Third World. References follow each chapter. The authors are Associate Professor of Economics at the University of Maine, Orono, and a licensed clinical psychologist, respectively. Index.

[MARSCHAK, JACOB.] *Jacob Marschak: Memorials and reminiscences.* Edited by JACK HIRSHLEIFER AND THOMAS A. MARSCHAK. Los Angeles: Foundation for Research in Economics and Education, 1978. Pp. 59. *JEL 79–0877*

Collection of memorials, tributes, eulogies, and reminiscences of Jacob Marschak (1898–1977) by members of his family, students, friends, and colleagues. Marschak, a pioneer econometrician, was President-Elect of the American Economic Association at the time of his death. Many of the memorials are obituaries written for scholarly journals. No index.

MOORE, ROBERT L. *Economic principles in action.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xxiii, 101. $6.95, paper. *JEL 79–0878*

Collection of short newspaper and magazine articles and questions or exercises for each that enable the student to apply economic principles to the real world; usable as a supplement to any introductory text. In four parts: supply, demand, and elasticity; macro principles, especially income determination, money, stagflation, and monitarism; micro principles, including cost and supply under various market structures, factor markets, and successes and failures of the market systems; and international issues. The author is at Occidental College, Los Angeles. Key concept index.

NATIONAL SCIENCE FOUNDATION, DIVISION OF SCIENCE INFORMATION. *Annotated bibliography, 1973–1977.* Washington, D.C.: NSF Directorate for Scientific, Technological and International Affairs, 1979. Pp. 170. Paper. *JEL 79–0879*

Resumés of reports, articles, conference papers, and other publications produced from 1973 to 1977 by projects funded by the Division of Science Information, National Science Foundation. Entries appear chronologically by year of publication. Includes indices of authors, associated corporate authors, titles of reports and other publications, award numbers, and subjects.

STAGER, DAVID. *Economic analysis and Canadian policy.* Third edition. Toronto: Butterworth, [1973, 1976] 1979. Pp. xi, 541. $12.95, paper. *JEL 79–0880*

Text for a two-semester introductory course in economic analysis and Canadian economic policy. In four parts: economics and the market; the Canadian macroeconomy; consumers and producers; and income distribution. Each section includes a statement of the goals, presentation of the theoretical framework, and a discussion of the related policy in terms of history, legislation, and alternative actions. This edition has been brought up to date with respect to data, legislation, and events. Chapters contain summaries of the main points. Workbook and student guide available. The author is a member of the Department of Political Economy, University of Toronto. Index.

See also: Book Number *JEL 79–1053*

020 GENERAL ECONOMIC THEORY

ARNOLD, R. DOUGLAS. *Congress and the Bureaucracy: A theory of influence.* Yale Studies in Political Science, no. 28. New Haven and London: Yale University Press, 1979. Pp. xiii, 235. $17.50. *JEL 79–0881*

Develops and tests a theory of congressional influence on bureaucratic decision-making, focusing on those decisions relating to the geographic allocation of expenditures. Reviews existing theories of geographic allocation; presents a new theory that "explicitly takes into account differences in allocational processes, differences in the nature of government programs, and differences in congressional committees"; discusses methods for testing this and other theories of geographic allocation; analyzes three different expenditure programs to test the theory's validity—(1) military employment from 1952–74, (2) model cities grants in 1967 and 1968, and (3) water and sewer grants in 1970 and 1971; concludes that "bureaucrats appear to allocate benefits strategically in an effort both to maintain and to expand their supporting coalitions [with congressmen]." The author is Assistant Professor of Politics and Public Affairs at Princeton University. Index.

AUSTER, RICHARD D. AND SILVER, MORRIS. *The state as a firm: Economic forces in political develop-*

ment. Studies in Public Choice, no. 3. Boston; The Hague and London: Martinus Nijhoff, 1979. Pp. x, 178. $14.95. *JEL 79-0882*

Develops the argument that states are firms concerned primarily with the production of collective protection and punishment. Discusses forms of ownership of states (democracy as a widely-held corporation; monarchy as a single proprietorship, *etc.*) and compares implications of the hypothesis against the historical record. Finds the evidence not inconsistent with the hypothesis. Examines the problems states pose for their citizens arising from the state's relative monopolistic position in its primal industries, and explores remedies. Finds support for the view that democracy without federalism is an expensive consumer good that is desired for itself despite its costs. The authors are a member of the faculty of the Economics Department of the University of Arizona and Professor of Economics at the City University of New York, respectively. Selected author, historical evidence, and subject indices.

BRONFENBRENNER, MARTIN. *Macroeconomic alternatives.* Arlington Heights, Ill.: AHM, 1979. Pp. xiii, 354. $13.95. *JEL 79-0883*

Presents the principal macroeconomic theories in "confrontation," allowing "the reader as voter to choose intelligently between and among them." Buttressing the text with geometry, algebra, and econometrics, the author first considers questions about macroeconomic aggregates themselves, moving to a discussion of the four theories on whether or not the economy tends towards full employment—the classical, neoclassical (both yes); Marxian, and Keynesian (both no). Part two examines macrodynamics, specifically: growth theory as applied to advanced industrialized countries, business cycle theory, and economic forecasting. If used as a text, prerequisites are a "serious student" with "better-than-average preparation in elementary economics or no-worse-than-average preparation in intermediate economic theory." The author is Kenan Professor of Economics, Duke University. Name and subject indices.

EDGMAND, MICHAEL R. *Macroeconomics: Theory and policy.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xiv, 553. $14.95. *JEL 79-0884*

Intermediate text. Particular topics covered include: national income accounting, the various aspects of the theory of income determination, consumption, investment, the supply of and demand for money, Keynesian economics, inflation and unemployment and their interrelationships, economic growth, international trade, monetary and fiscal policy, and incomes policy. Contains policy applications and discussions of the U.S. experience. Chapters supplemented with questions for review and suggested reading. Calculus not required. The author is at Oklahoma State University. Index.

ELLIOTT, JAN WALTER. *Macroeconomic analysis.* Second edition. Cambridge, Mass.: Winthrop, [1975] 1979. Pp. xx, 456. $18.95. *JEL 79-0885*

Intermediate macroeconomics text. For this edition, statistical material and examples have been brought up to date and textual material has been checked for "degree of relevance and realism"; exact changes not noted. [See *JEL no. 75-0912* for annotation of original edition.] The author is at the University of Wisconsin, Milwaukee. Index.

HARRIS, DONALD J. *Capital accumulation and income distribution.* Stanford: Stanford University Press, 1978. Pp. ix, 313. $15.00. *JEL 79-0886*

Outlines and appraises contemporary approaches to a theory of accumulation and distribution in the capitalist economy. Reviews the conceptual framework developed by the English classical economists and by Marx, contrasting it with the neoclassical framework, and focuses on problems of modern growth theory. Develops a formal scheme of analysis incorporating a linear model of production with heterogeneous commodities under conditions of simple and expanded reproduction. In view of this formulation, contrasts the neo-Keynesian and neoclassical approaches to accumulation and distribution and draws on elements of Marxian theory to recast the issues. The author is Professor of Economics at Stanford University. Bibliography; index.

HEY, JOHN D. *Uncertainty in microeconomics.* New York: New York University Press, 1979. Pp. vi, 261. $18.95, cloth; $9.50, paper. *JEL 79-0887*

A synthesis of recent work in the microeconomics of uncertainty. Views the study of uncertainty as intimately linked with efforts to establish a theoretical foundation for both the study of disequilibrium phenomena and the study of the microeconomic basis of macroeconomics. Establishes the framework for rational behavior under uncertainty in a treatment of utility theory, decision theory, risk and risk aversion, and information. Reformulates the conventional theories of consumer and firm behavior in terms of dynamic behavior under uncertainty and examines the interaction of economic agents in the marketplace. The author is Lecturer in Social and Economic Statistics at the University of York. Subject and author indices.

HOCH, ROBERT. *Consumption and price: With special regard to the theories and practice of the so-*

cialist countries. Revised edition. Translated by GYÖRGY HAJDU. Alphen aan den Rijn, The Netherlands: Sijthoff and Noordhoff; Budapest: Akadémiai Kiadó; 1979. Pp. 408. $45.00. *JEL 79–0888*

Revised and enlarged translation from the Hungarian on theoretical problems of the consumer price mechanism and consumer price policy in socialist economies. Part one deals with the conceptual and theoretical categories of the level of consumer prices, while part two covers relative prices; part three discusses the principle of input-proportionality; and part four considers the two principles of structural policy and of (relative) price policy—the principle of returns *vis-à-vis* growth and the principle of input-proportionality as optimum concepts—and indicates what the author deems most favorable for a socialist society. No index.

KAY, GEOFFREY. *The economic theory of the working class.* New York: St. Martin's Press, 1979. Pp. x, 140. $22.50. *JEL 79–0889*

A textbook. Rejects "the complete and utter irrationality of capitalist production as a mode of satisfying human needs" and presents theory, "taken almost exclusively from Marx's writings," on surplus value, absolute and relative surplus value, industrial cooperation and machine production, wages, profits, and the "reserve army of labour." The author is Lecturer in Economics at the City University, London. Index.

KORLIRAS, PANAYOTIS G. AND THORN, RICHARD S., eds. *Modern macroeconomics: Major contributions to contemporary thought.* New York and London: Harper and Row, 1979. Pp. ix, 413. *JEL 79–0890*

Twenty previously published articles, assembled to introduce advanced students in economics to the significant developments in macroeconomics in the last decade. In five parts: consumption and investment; demand management; inflation and unemployment; disequilibrium macroeconomics; and monetary growth models. Each part is prefaced by introductions by the editors, professors of economics at the Athens School of Economics and Business Science and the University of Pittsburgh, respectively. No index.

KÝN, OLDŘICH AND SCHRETTL, WOLFRAM, eds. *On the stability of contemporary economic systems: Proceedings of the Third Reisensburg Symposium.* Mathematical Studies in the Social and Behavioral Sciences, no. 3. Göttingen: Vandenhoeck and Ruprecht, 1979. Pp. 460. DM 98–. *JEL 79–0891*

Twenty-five previously unpublished papers plus related comments on the theoretical and empirical problems of economic stability in both market and planned economies, originally presented at a symposium sponsored by the Commission for Research on Development of the Bavarian Academy of Sciences and the Volkswagen Foundation held at Reisensburg Castle, West Germany, in 1975. In three parts: part one considers several aspects of short-run stability, including inflation, the labor market, theories of the cycle, individual markets, and general disequilibrium, and part two looks at four aspects of long-run stability, namely behavioral changes, technical and resource change, institutional change, and system dynamics and catastrophe. The last part is a final discussion of the proceedings. O. Kýn is Professor of Economics, Boston University, and W. Schrettl is an economist with *Osteuropa-Institut München* in West Germany. No index.

LACHMANN, LUDWIG M. *Capital and its structure.* Second edition. Studies in Economic Theory. Kansas City, Ks.: Universal Press Syndicate, Sheed Andrews and McMeel in cooperation with the Institute for Humane Studies, Menlo Park, Calif., and the Cato Institute, San Francisco, [1956] 1978. Pp. xvii, 130. $4.95, paper. *JEL 79–0892*

Reprint of a 1956 study with a new preface, presenting a structural theory of capital, which the author sees as germane to present-day economic concerns. Placing this study in the category of investigations of Hayek's "theory of capital," as opposed to Solow's "capital theory," the author observes that "the theory of capital . . . has made little progress since 1941." Employs a subjective approach, exploring the problems related to the concept of capital structure or "the order of capital" used by society. Illustrates applications to problems ranging from "the productivity of capital to the demise of the 'strong boom' " and emphasizes transmission of knowledge as the "ultimate agent of all economic processes." The author is a South African professor-emeritus. Index.

LANCASTER, KELVIN. *Variety, equity, and efficiency: Product variety in an industrial society.* Columbia Studies in Economics, no. 10. New York and Guildford, England: Columbia University Press, 1979. Pp. xi, 373. $22.50. *JEL 79–0893*

Theoretical examination of the problem of the "optimal degree of product variety" in an economy characterized by technological economies of scale and by a population with varied tastes. Establishes an analytical framework based on commodities viewed as bundles of characteristics rather than as technologically immutable entities. Con-

siders how the degree of product variety is affected by various market structures and assesses the viability of these structures under conditions in which firms must choose both the price and the specification of product characteristics. Finds the structure of the conventional model of perfect competition incompatible with the provision of optimal product variety under these conditions of full flexibility. Among other findings, concludes that it is not optimal to produce any good at minimum average cost under these conditions, but rather that firms should increase product variety and produce more goods, each at an output below the minimum average cost level. The author is John Bates Clark Professor of Economics at Columbia University. Index.

[LERNER, ABBA P.] *Theory for economic efficiency: Essays in honor of Abba P. Lerner*. Edited by HARRY I. GREENFIELD *et al.* Cambridge, Mass., and London: MIT Press, 1979. Pp. ix, 243. $25.00. *JEL 79-0894*

Festschrift dedicated to Abba P. Lerner, Professor of Economics at Florida State University at Tallahassee and Fellow of the National Academy of Sciences, on the occasion of his 76th birthday. Comprises fifteen previously unpublished papers, covering topics on: the trade-off between growth and equity; consumer's and producer's surplus; neo-Keynesianism and monetarism in the short and long run; the politics of economic control; fiscal policy; organizational design; perfect competition in mining; Lerner and foreign trade theory; Keynes's policy thinking; interest and land; environmental factors in project analysis; the translog production function; and deficit spending and crowding out. Contains a selected bibliography of Lerner's publications. H. I. Greenfield, along with co-editors Albert M. Levenson, William Hamovitch, and Eugene Rotwein, are members of the faculty of Queens College, City University of New York. No index.

MANSFIELD, EDWIN. *Microeconomic problems: Case studies and exercises for review*. Third edition. New York and London: Norton, [1971, 1975] 1979. Pp. vii, 241. $4.95, paper. *JEL 79-0895*

Set of questions and case studies that cover most topics taught in an intermediate microeconomics course. Each chapter contains a case study, 20 or so questions and problems, a self-test, and a list of key terms for review. This edition includes many new problems, new true-false questions, and several new topics (*e.g.*, intertemporal choice). With few exceptions, the problems require only basic algebra. Brief answers provided. The author is a Professor of Economics at the University of Pennsylvania. No index.

MANSFIELD, EDWIN. *Microeconomics: Theory and applications*. Third edition. New York and London: Norton, [1970, 1975] 1979. Pp. xxii, 548. $12.95. *JEL 79-0896*

Intermediate undergraduate text. This edition has been lengthened and includes extended coverage of some traditional topics and totally new material on externalities, public choice, dynamic models of intertemporal choice, technological change, and transaction costs. A new review chapter on supply and demand has been added along with 34 new examples and 100 questions for discussion and review. An instructor's manual by Paul M. Sommers of Middlebury College is available. [See *JEL no. 75-0621* for annotation of second edition.] The author is at the University of Pennsylvania. Index.

MANSFIELD, EDWIN. *Microeconomics: Theory and applications*. Shorter third edition. New York and London: Norton, [1970, 1975] 1979. Pp. xiv, 400. $12.50. *JEL 79-0897*

Abridged version of Mansfield's most recent intermediate text [see *JEL no. 79-0896*]. Topics not included: linear programming, benefit-cost analysis, intertemporal choice, technological change, and advanced materials and footnotes that contain mathematical derivations. All other changes in Mansfield's third edition appear in this version. The author is Professor of Economics at the University of Pennsylvania. Index.

MANSFIELD, EDWIN, ed. *Microeconomics: Selected readings*. Third edition. New York and London: Norton, [1971, 1975] 1979. Pp. xiv, 677. $9.95, paper. *JEL 79-0898*

Forty-seven previously published articles for use as a supplement to any intermediate textbook. Revisions include: a totally new section on intertemporal choice and technological choice and essays on the problems of the eighties, including pollution, energy, and law enforcement. About one-fifth of the articles are new for this edition. Contains theoretical papers, micro applications, and case studies. [See *JEL no. 76-0025* for annotation of second edition.] The author is Professor of Economics at the University of Pennsylvania. No index.

MIRKIN, BORIS G. *Group choice*. English edition. Translated by YELENA OLIKER. Edited by PETER C. FISHBURN. Scripta Series in Mathematics. Washington, D.C.: Scripta Technica, Winston; distributed by Wiley, Halsted Press, New York, 1979. Pp. xxx, 252. $22.50. *JEL 79-0899*

Treatment of group choice as a general problem of aggregating individual preferences and, specifi-

cally, as a problem of data analysis. Written in set-theoretic language of finite mathematics, attempts to collect the main mathematical concepts linking social choice theory, expert evaluation analysis, aggregation of qualitative factors, general game theory, and economic equilibrium theory. Chapters address the measurement of individual and group preferences, majority rule, axiomatic analysis or problems of consistency, expert judgment analysis, and game theoretic approaches to group choice. The author is affiliated with the Soviet Academy of Sciences at Novosibirsk and is Adjunct Professor of Applications of Mathematical Methods at Novosibirsk University. Bibliography; index.

MUELLER, DENNIS C. *Public choice.* Cambridge Surveys of Economic Literature. London; New York and Melbourne: Cambridge University Press, 1979. Pp. xiii, 297. $24.95, cloth; $6.95, paper. *JEL 79–0900*

Survey of the literature on various topics in the field of public choice and public expenditure theory; this is an extension of an article appearing in this journal, June 1976. Part one looks at positive public choice, including the question of why collective decisions are necessary and the properties of the various voting procedures that have been used or proposed. Also examines some recent models developed to study government bureaucracy. Part two reviews normative theories of the state and of collective public choice. The last part compares the positive and normative approaches. This version, an extension of an article appearing in this journal in June 1976, covers the same topics as the original paper (but in greater length), and also includes additional material on new voting methods and the supply side of the public weal. The author is Professor of Economics, University of Maryland. Bibliography; name and subject indices.

RUSSELL, R. ROBERT AND WILKINSON, MAURICE. *Microeconomics: A synthesis of modern and neoclassical theory.* New York; Chichester, England; Brisbane and Toronto: Wiley, 1979. Pp. xvii, 459. $22.50. *JEL 79–0901*

Graduate or advanced undergraduate text in microeconomics that integrates the work of the marginalist school with the modern approach pioneered by Arrow and Debreu, maintaining that neoclassical theory is a special case of modern theory. In four parts: consumer theory (including preference utility, and demand theories), production theory and linear production technologies; theory of market structures; and theory of general equilibrium and economic welfare. Each part is accompanied by historical notes and a list of suggested readings; chapters contain exercises. Requires elementary differential calculus. R. R. Russell is Professor of Economics, University of California at San Diego, and M. Wilkinson is a professor at the Graduate School of Business, Columbia University. Index.

SHACKLE, G. L. S. *Imagination and the nature of choice.* Edinburgh: Edinburgh University Press, 1979. Pp. x, 159. *JEL 79–0902*

Seeks to show the "essential nature of choice as discernible in men's most direct, inescapable and imperious intuitions." Argues that choice is an "uncaused cause," *i.e.*, a beginning, thus it is not foreknowable, and that choice is a commitment made after comparison "amongst skeins of rival conceptions of the sequel of action." The decision-maker then assesses the best course, the course that is most free from discernible obstruction. Other areas of choice discussed include the incentive for choosing, a formal representation of the business of choice, the weight of arguments, the meaning of "calculable risk," and whether there is a logic of uncertainty. The author is Professor Emeritus of Economics at the University of Liverpool. Index.

THOMPSON, MICHAEL. *Rubbish theory: The creation and destruction of value.* Foreword by E. C. ZEEMAN. Oxford; New York; Toronto and Melbourne: Oxford University Press, 1979. Pp. ix, 228. $24.00. *JEL 79–0903*

A social anthropological inquiry into the nature of the qualities possessed by objects. Argues that objects have social malleability—that objects have the qualities they have as a result of a social process of endowment. Illustrates hypothesis concerning transient goods (whose value tends to decrease over time), durable goods (whose value tends to increase), rubbish (with zero or negative value), and socially controlled transfers between these categories, with examples from housing controversies (why do certain areas become slums?), the market for kitsch art, the ceremonial exchange of pigs in New Guinea (a critique of the Hansen-Samuelson model of trade cycles), changes in educational curricula, and other areas. Views "rubbish" as the visible intrusion of elements of nature that a culture chooses to discard and ignore ("residues of our cultural categories") and links the process of ignoring anomolous elements (the "conspiracy of blindness") to the cognitive imperative of imposing order on a chaotic universe. Criticizes social scientists and economists in particular, for contributing to this "conspiracy of blindness" rather than accommodating anomolies ("conserving monsters"). Uses of catastrophe theory, de-

rived from mathematical topology, in modeling anomolies and discontinuities. Based on a Ph.D. dissertation for the Anthropology Department at University College, London. No index.

See also: Book Numbers *JEL 79–0904, 79–0909, 79–0996, 79–1064, 79–1104*

030 History of Economic Thought; Methodology

FABER, MALTE. *Introduction to modern Austrian capital theory.* Mathematical Economics no. 167. Lecture Notes in Economics and Mathematical Systems Series. Berlin and New York: Springer-Verlag, 1979. Pp. x, 196. $12.50, paper. *JEL 79–0904*

Textbook covering Eugen von Böhm-Bawerk's theory of capital and interest, the von Neumann model, a two-period two-sector and generalized multi-sector models of the neo-Austrian approach, and the von Böhm-Bawerk–Schumpeter controversy concerning the zero rate of interest in a stationary economy. Also compares the neo-Austrian approach to capital theory, with neoclassical and Hick's neo-Austrian theories. The manuscript was used as the text for a senior undergraduate, first year graduate level course at the University of Heidelberg, and although the author sees some passages as demanding, "mathematical requirements consist only of an elementary form of the *Kuhn-Tucker* conditions and *Cramer's* rule." Includes questions at the end of each chapter. The author is at the University of Heidelberg. Author and subject indices.

HOLLOWAY, JOHN AND PICCIOTTO, SOL, eds. *State and capital: A Marxist debate.* Austin: University of Texas Press, 1979. Pp. 220. $13.50. *JEL 79–0905*

Seven papers, appearing for the first time in English (all have previously appeared in West German publications), analyzing the relationship between the capitalist state and the form of production in modern capitalist societies. The analyses reflect developments in Germany of the "state derivation" (*Staatsableitung*) debate, an attempt to extend Marx's analysis and construct a materialist theory of the capitalist state that establishes the development of political forms and the possibilities of political action as integral features of the analysis of capital production. The introductory essay by the editors surveys the principal methodological features of contemporary German Marxist analysis and contrasts it with other approaches. Bibliography; author and subject indices.

KEYNES, JOHN MAYNARD. *The collected writings of John Maynard Keynes.* Volume 23. *Activities 1940–1943: External war finance.* Edited by DONALD MOGGRIDGE. New York and London: Cambridge University Press for the Royal Economic Society, 1979. Pp. 378. $28.50. *JEL 79–0906*

This volume in the twenty-nine volume new standard edition is the second of three on Britain's problems in financing the war and focuses on Lend Lease policies [see *JEL no. 79–0035* for annotation of Vol. 22 and June 1979, Vol. 17, pp. 539–41 for book review]. Covers Keynes's papers and letters on the pre–Lend Lease war financing, the Lend Lease Agreements worked out in Washington in 1941, the final negotiations in London, and the working of the Lend Lease Agreement up to 1943. Also includes work on the Middle East and India for the period 1940–43. Includes editorial comments. Index.

MAAREK, GÉRARD. *An introduction to Karl Marx's "Das Kapital": A study in formalisation.* Preface by W. J. BAUMOL. Translated by MANSEL EVANS. New York: Oxford University Press, [1975] 1979. Pp. xx, 233. $22.00. *JEL 79–0907*

This English translation of the 1975 French edition contains a new preface (Edmond Malinvaud was the author of the preface to the French edition). [See *JEL no. 79–0037* for annotation of French edition and book reviews in March 1976, Vol. 14, pp. 82–88, and in March 1979, Vol. 17, pp. 92–93.] The author is an administrator at the *Institut National de la Statistique et des Études Économiques* in Paris. Index.

PRESLEY, JOHN R. *Robertsonian economics: An examination of the work of Sir D. H. Robertson on industrial fluctuation.* New York: Holmes and Meier, 1979. Pp. xi, 320. $29.50. *JEL 79–0908*

A study of Sir Dennis Holme Robertson's macroeconomic work on the trade cycle in a closed economy. The introduction offers a brief biography. Part one reviews trade cycle theories before 1915; examines Robertson's *"real"* theory of industrial fluctuation published in *A Study of Industrial Fluctuation* (1915) and dominated by the inherent features of capitalist economy with a heavy reliance upon the investment process; and considers the relationship between Robertson's theory and alternative theories in 1915. Part two focuses on Robertson's work on the role of saving and investment and the influence of monetary forces on the trade cycle; explores Robertson's response to the *General Theory* during the interwar years. Part three considers the policy implications of Robertson's analysis which, on the issue of inflation, ar-

gued that "control over the quantity of money is a *necessary* condition, even though not by itself a *sufficient* condition, for controlling the supply of loanable funds and hence the stream of total demand." The author is Senior Lecturer and Director of Studies in Economics at the University of Loughborough, England. Bibliography of Robertson's writings; index.

SMITH, VERNON L., ed. *Research in experimental economics.* Volume 1. A Research Annual. Greenwich, Conn.: JAI Press, 1979. Pp. v, 374. $28.50, institutions; $14.50, individuals. *JEL 79–0909*

Nine previously unpublished essays on the use of controlled experiments to establish economic theories. Topics covered include: an experimental analysis of decision-making procedures for discreet public goods; laboratory experiments on processes for the provision of public goods; the relation between research on volunteer artifacts in psychology to economic experiments; the obtaining of unbiased and efficient samples; and the labor supply behavior of animals. Also discusses intertemporal competitive equilibrium, sealed-bid auction applications, the number of market structures that can be expected under restricted trade, and the use of independently scaled utility functions in experimental applications of game theory. The editor is at the College of Business and Public Administration, University of Arizona. No index.

TREVER, ALBERT AUGUSTUS. *A history of Greek economic thought.* Reprint. Philadelphia: Porcupine Press, [1916] 1978. Pp. 162. $13.50. *JEL 79–0910*

Reprint of Trever's 1916 examination of Greek thought in the field of economics. Written chronologically, the author begins with pre-Platonic thought, moving in order to Plato, Xenophon, Demosthenes, Isocrates, Aristotle, and the minor philosophers that succeeded Plato and Aristotle. Concludes that although Greek economic thought was incidental to moral and political discussion, the Greeks did perceive, among others, the principles that the goal of economics is human welfare; that economic value is based on utility, demand, and cost of production; and that the factors of production are land, labor, and capital. In retrospect, however, the Greeks seem to have had very little direct or extensive influence on later economic theory. The author (1874–1940) was at Lawrence College, Appleton, Wisconsin, when this book was written. Bibliography; subject and author indices.

See also: Book Numbers *JEL 79–0877, 79–0886, 79–0889*

040 ECONOMIC HISTORY

BALABKINS, NICHOLAS AND AIZSILNIEKS, ARNOLDS. *Entrepreneur in a small country: A case study against the background of the Latvian economy, 1919–1940.* Hicksville, N.Y.: Exposition Press, 1975. Pp. xiv, 143. $6.50. *JEL 79–0911*

Examines the role of enterpreneurship in the evolutionary process of Latvia, during its brief period of independence, 1918–40. Part one outlines the political and economic facts and history of this new and small country, including its trend toward "statism" from the inception of independence. Part two analyzes the entrepreneurial activity of the large, privately-owned textile firm, *Rigas Audums*. The principal conclusion is that "sprawling bureaucratic controls of economic life . . . do not offer the most expeditious climate for fostering economic growth and the material well-being of a people." A postscript on the lessons of the Latvian experience in which government bureaucracy conflicts with entrepreneurship is offered to developing countries. The authors are economists at Lehigh University and in Sweden. Index.

BROWN, JONATHAN C. *A socioeconomic history of Argentina, 1776–1860.* Cambridge Latin American Studies, no. 35. Cambridge; New York and Melbourne: Cambridge University Press, 1979. Pp. xiv, 302. $24.95. *JEL 79–0912*

Focuses on the impact of market mechanisms on the methods of production in the Río de la Plata region. Describes the economic and social development of Argentina in the period 1776–1860; tests empirically and rejects the dependency theory; and agrees instead that "Argentine history before 1860 more nearly conforms to the 'staple theory' of economic growth," *i.e.*, that export of staples carries the whole economy and the society. The author argues that "the linkage between industrial demand and the raw materials producer more satisfactorily explains the timing, direction, and change in the socioeconomic history of Argentina in the era of traditional technology." Selected bibliography; index.

BYATT, I. C. R. *The British electrical industry, 1875–1914: The economic returns to a new technology.* Oxford: Oxford University Press, Clarendon Press, 1979. Pp. xii, 228. $22.50. *JEL 79–0913*

An economic history of electricity supply, electric tramways and railways, electric power in factories, and of electrical manufacturing in Britain from the late 1870's to 1914. Examines the relationship between the new technology and a new industry and emphasizes the type and size of the economic pay-off resulting from major innova-

tions. Also investigates the relationship between businessmen and engineers; and the impact of the international market. Assesses the effects of developments in the British electrical industry on the general economy, finding that the impact on total investment was considerable and the benefits from factory electrification were important and widely spread. However, maintains that the slow growth in the use of electricity in Britain compared with Germany or the United States was due to its relatively high resource cost compared with other methods. Finds that "slow economic growth hindered the adoption of electrical equipment rather than the other way around." The author is deputy chief economic advisor at H. M. Treasury. Index.

CARTER, IAN. *Farmlife in northeast Scotland, 1840–1914: The poor man's country.* Edinburgh: John Donald; distributed by Humanities Press, Atlantic Highlands, N.J., 1979. Pp. xiv, 258. $28.75. *JEL 79-0914*

Examines the social history of agricultural production in northeast Scotland. Stresses the importance of "social relations of men in production." Uses a Marxian model stressing the concepts of the "mode of production" and "social formation," the total structure of social groups. Deals with the counties of Aberdeenshire, Banffshire, Kenardine, Morayshire, and Nairn. Finds the forces shaping the social formation of rural northeast Scotland include the climatic and geological endowment of the different districts "modified by the incorporation of the whole region in wider British and world economic networks through the expansion of the cattle and beef trades." Bibliography; index.

COWHERD, RAYMOND G. *Political economists and the English Poor Laws: A historical study of the influence of classical economics on the formation of social welfare policy.* Athens: Ohio University Press, 1978. Pp. xvii, 300. $15.00. *JEL 79-0915*

Documents and discusses forcefully the reforms initiated by three distinct groups: the Evangelical humanitarians (originally led hy Jonas Hanway), the proponents of the natural law approach (influenced by Malthus's original *Essay on Population* and by John Bird Sumner), and the Benthamite "radicals." Identifies the important but nonetheless limited role the classical economists played. The period covered is from the mid-eighteenth to the mid-nineteenth centuries. The author, a historian, is Professor Emeritus at Lehigh University. Bibliography; index.

[FLINN, MICHAEL WALTER.] *The search for wealth and stability: Essays in economic and social history presented to M. W. Flinn.* Edited by T. C. SMOUT. London: Macmillan Press, 1979. Pp. xx, 291. $31.25. *JEL 79-0916*

Thirteen previously unpublished papers presented in honor of Professor M. W. Flinn on the occasion of his retirement from Edinburgh University by former colleagues and students. Topics include European and Caribbean agriculture, immigration, the Industrial Revolution, and English and Scottish economic and social history. M. W. Flinn is Professor Emeritus of Social History in the Department of Economic History at Edinburgh University. Includes bibliography of M. W. Flinn's works. Index.

GEMERY, HENRY A. AND HOGENDORN, JAN S., eds. *The uncommon market: Essays in the economic history of the Atlantic slave trade.* Studies in Social Discontinuity. New York and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xvi, 448. $24.00. *JEL 79-0917*

Seventeen previously unpublished papers by economists and historians on the Atlantic slave trade, focusing both on the African experience and the Atlantic-American experience, originally presented at a conference sponsored by the Mathematical Social Science Board of the National Science Foundation, held at Colby College (Waterville, Maine) on 20–22 August 1975. Intended to combine and further the use of the analytical techniques of economists and historians and to cover all three segments of the slave trade—supply in Africa, transport to the Americas, and demand derived from the production of crops in the New World. Part one includes seven empirical papers on activities in Africa related to slave trade, particularly the trans-Saharan trade, commercial organization in Angola, the Dahomean slave trade, the economic costs of trade for West Africa in the eighteenth century, trade in the Central Sudan, and slavers in West Africa. Part two considers the structure of the trade and the economies involved in slavery, containing essays on mortality in the Dutch and French trades, the adaptability of the participants in the market, slave labor in British America, Danish abolition of slave trade, and British repression of illegal French slave trade. The editors are members of the Department of Economics, Colby College. Index.

HIGMAN, B. W. *Slave population and economy in Jamaica: 1807–1834. Paperback edition. Cambridge; New York and Melbourne: Cambridge University Press, [1976] 1979. Pp. vii, 327. $9.95.* *JEL 79-0918*

Paperback reprint. [See *JEL no. 77-0643* for annotation and Volume 17, no. 1, March 1979, for book review.]

HOHORST, GERD. *Wirtschaftswachstum und Bevoelkerungsentwicklung in Preussen 1816 bis 1914.* Dissertations in European Economic History. New York: Arno Press, 1977. Pp. xi, 467. $32.00. *JEL 79-0919*

Explores interactions between demographic development and industrial development in Prussia and subdivisions in the nineteenth century. Seeks cliometric explanations for fertility decrease after 1880 and hypothesizes rational family response to decreased infant mortality. Estimates per capita incomes and agricultural labor force share in Prussian administrative districts over the century; finds increasing East-West divergence, but no Rostovian "take-off." Tests and rejects Mendels's proto-industrialization model on Kreis Hagen. Bibliography; no index. [P.B.H.]

VON LAER, HERMANN. *Industrialisierung und Qualitaet der Arbeit: eine Bildungs- oekonomische Untersuchung fuer das 19. Jahrhundert.* Dissertations in European Economic History. New York: Arno Press, 1977. Pp. x, 470. $32.00. *JEL 79-0920*

Considers the supply and demand for human capital in nineteenth century Germany, focusing mainly on the Imperial period. Compares human capital inputs in the textile and machine tool industries. Examines and confirms the state's promotion of the accumulation of skills and knowledge, while emphasizing the need to differentiate among various types of schooling and on-the-job training. Concludes that the Industrial Revolution did not necessarily reduce the qualification level of the labor force and that the market for human capital was competitive. Bibliography; no index. [P.B.H.]

LIS, CATHARINA AND SALY, HUGO. *Poverty and capitalism in pre-industrial Europe.* Pre-Industrial Europe, 1350–1850, series, no. 1. Atlantic Highlands, N.J.: Humanities Press, 1979. Pp. xvi, 267. $26.25. *JEL 79-0921*

A holistic study of the causes of socioeconomic inequality among peasants and urban craftsmen; the nature and extent of poverty; and the factors in poor relief policy and the system of public support for the poor, which "evolved from a discontinuous and highly undifferentiated source of assistance, chiefly dispensed as private charity on a voluntary basis, to a continuous and selective system, largely maintained by public institutions which often taxed to raise the funds necessary," but whose regulations were "more and more determined by the changing needs of the market and the variable level of social 'stability'." Organized chronologically from the year 1000 to 1850, but the focus is on "the long sixteenth century" with its commercial capitalism, and the century after 1750 and the growth of industrial capitalism. Argues that "poverty can be fully understood only as the consequence of an established structure of surplus-extractive relations" and "a network of paternalistic initiatives [that] consolidated—and simultaneously justified—a fundamental social inequality." The historian-authors are Senior Assistants, University of Brussels and University of Ghent, respectively. Bibliography; index.

VON LOESCH, ACHIM. *German labour banks in the twenties.* Series Commonweal Economy, no. 12. Frankfurt: Bank für Gemeinwirtschaft (BFG) Aktiengesellschaft, 1978. Pp. 68. *JEL 79-0922*

History of the early trade union banks in Germany. Discusses the experience of these banks and looks at areas such as civil servants' banks, trade union savings banks, house and specialized banks, and pure trade union banks. Shows that the banks were designed to provide the working class with credit, provide means for profitable investment, and to secure a role in the development of the money and credit system in general. Finds that these institutions formed out of various circumstances but had to eventually adopt the rules and laws of private and public banks. Finds also that house banks, designed to aid investment, tended to be overrated in the twenties.The author is an economist with the union owned BFG Bank in Frankfurt. No index.

USELDING, PAUL, ed. *Research in economic history: A research annual.* Vol. 4. Greenwich, Conn.: JAI Press, 1979. Pp. ix, 356. $32.00. *JEL 79-0923*

Seven previously unpublished papers in the field of economic history. Contributions include: "A Simple Model of the Kondratieff Cycle" (W. W. Rostow and Michael Kennedy); "Schumpeterian Waves of Innovation and Infrastructure Development in Great Britain and the United States: The Kondratieff Cycle Revisited" (Raymond S. Hartman and David R. Wheeler); "The Profitability of Northern Agriculture in 1860" (Fred Bateman and Jeremy Atack); "The Farm Enterprise: The Northern United States, 1820–1860s" (Clarence H. Danhof); "Urban Improvement and the English Economy in the Seventeenth and Eighteenth Centuries" (E. L. Jones and M. E. Falkus); "Occupational Structure, Dissent, and Educational Commitment: Lancashire, 1841" (Alexander James Field); "Industrial Work and the Family Life Cycle, 1889–1890" (Michael R. Haines). The editor is Professor of Economics at the University of Illinois, Urbana. No index.

WRIGHTSON, KEITH AND LEVINE, DAVID. *Poverty and piety in an English village: Terling, 1525–1700.* Studies in Social Discontinuity. New York;

San Francisco and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xii, 200. $17.00. *JEL 79-0924*

A history of "how the villagers of Terling [Essex] experienced and came to terms with their places in an important period of England's history." Focuses upon the interaction of demographic, economic, political, social and cultural changes between the national and local scene during the century and a half between the Reformation and the Revolution of 1688 by examining the process of change in a single village. Argues that two major developments in English rural society occurred in this period—(1) a significant weakening of the localism of provincial society and (2) a new complexity in the social differentiation of rural communities. During these one and one-half centuries, there was considerable progress toward an integrated national economy and a marked intensification of the existing tendencies toward polarization of wealth and poverty. Principal sources are the parish register, villagers' wills, manorial and estate records, parish accounts, tax records, the records of Quarter Sessions and Assizes, and the records of the ecclesiastical courts. The authors are members of the Departments of History, St. Salvator's College, University of St. Andrews, Scotland, and the Ontario Institute for Studies in Education, Toronto, respectively. Index.

See also: Book Numbers *JEL 79-0906, 79-0957, 79-1004, 79-1006*

050 Economic Systems

Crouch, Colin, ed. *State and economy in contemporary capitalism.* New York: St. Martin's Press, 1979. Pp. 264. $22.50. *JEL 79-0925*

Six previously unpublished essays by sociologists, economists, and international studies experts on the theory of the state in advanced capitalist societies. Concerned with "the political, economic and social forces which together have recently made the position of the state in advanced capitalist societies problematic": state intervention in economic policy, industrial relations and planning of the corporate state, public spending, collective consumption, and the Keynesian strategies. Authors are: Colin Crouch, Robert Skidelsky, Andrew Martin, Michael Harloe, Frank Longstreth, and Dominic Strinati. The editor is Lecturer in Sociology at the London School of Economics and Political Science. Bibliography; subject and name indices.

Gustafsson, Bo, ed. *Post-industrial society.* New York: St. Martin's Press, 1979. Pp. 238. $22.50. *JEL 79-0926*

Seven previously unpublished articles, five examining the fundamental features of, and trends in, contemporary modern capitalism in Western Europe, while two discuss the experience of Eastern Europe and of China. The papers were presented at a symposium at Uppsala University, 22-25 March 1977. Focuses on two salient features of post-industrial capitalist society: the growth of service industries and white collar employment and the expansion of the public sector. Titles and authors include: "The Rise of the Service Industries and White-Collar Employment" (Sidney Pollard); "The New Industrial Structure—The Scandinavian Experience" (Karl-Gustaf Hildebrand); "Public Expenditure Growth in Post-Industrial Society" (Alan Peacock); "The Role of the Public Sector in Scandinavia" (Erik Hook); "Recent Developments in East European Economics" (Alec Nove); "Economic Politics and Political Economy in China" (Charles Bettelheim); and "The Direction of Change in Economic Systems" (W. Brus). Most papers are followed by comments. Also includes an appendix paper on postwar public sector growth in Sweden. Name and subject indices.

Latta, Geoffrey W. *Profit sharing, employee stock ownership, savings, and asset formation plans in the Western World.* Multinational Industrial Relations Series No. 5. Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, 1979. Pp. xii, 192. $15.00, paper. *JEL 79-0927*

Examines, compares, and contrasts the range of benefits focusing on profit-sharing, asset-formation, and employee stock-ownership plans in the United States, Germany, Denmark, Sweden, the Netherlands, the United Kingdom, France, and other European countries. An appendix summarizes profit-sharing in some Latin American countries and in Japan. The author, "a member of the industrial relations department of a major American-based corporation," finds that "plans have been most successful in the United States and Germany and least successful in a number of countries where the capitalist system has been considerably modified and where employers no longer appear to feel confident in actively proclaiming the values of that system." Index.

Thornley, Jenny. *Workers' cooperatives in France: How capital availability and state intervention affect production.* Occasional Paper no. 6. London: Centre for Environmental Studies, 1978. Pp. 40. £1.40, paper. *JEL 79-0928*

Surveys the characteristics, capital availability, and trends in production of workers' cooperatives in France since the turn of the century, but partic-

ularly since the 1960's. Briefly compares the French experience to that of the British, and argues that "the state's role in the development of workers' cooperatives can be a facilitating one, and can be used to direct the growth of workers' cooperatives in certain sectors of the economy." No index.

See also: Book Numbers *JEL 79–0886, 79–0888*

100 Economic Growth; Development; Planning; Fluctuations

110 Economic Growth; Development; and Planning Theory and Policy

BEHRMAN, JERE AND HANSON, JAMES A., eds. *Short-term macroeconomic policy in Latin America.* The National Bureau of Economic Research, Other Conference Series, no. 14. Cambridge, Mass.: Harper & Row, Ballinger, for the NBER, 1979. Pp. xxi, 370. *JEL 79–0929*

Eleven previously unpublished papers on the usefulness to Latin American planners of the recent work on forecasting, the constraints on short-run policy, and the impact of conventional macro policy in the Latin American institutional framework; originally presented at a conference sponsored by the Panamanian Ministry of Planning and Economic Policy, the Latin American Institute for Economic and Social Planning, and the National Bureau of Economic Research, held at Isla Contradora in Panama in November 1975. Includes three papers each on econometric models of Latin America, particularly those for Panama and Nicaragua, and on the wage-price-output nexus and effectiveness of monetary policy, and one paper on the formulation of policy. Also covers the effect of the foreign sector on the domestic economy and problems of excess capacity. The editors note that the papers: (1) "provide little support for the effectiveness of monetary policy," especially in small, open economies; (2) show that forecasting can be useful for Latin American countries, even if used at a minimum level; and (3) demonstrate that nonconventional macro policies such as removing constraints to high utilization rates may be a more promising method in manipulating output in both the short- and long-run. J. R. Behrman is Professor and Chairperson of Economics at the University of Pennsylvania and J. A. Hanson is Associate Professor and Chairman of the Latin American Studies Committee at Brown University. Index.

BINKIN, MARTIN AND KYRIAKOPOULOS, IRENE. *Youth or experience? Manning the modern military.* Studies in Defense Policy. Washington, D.C.: Brookings Institution, 1979. Pp. x, 84. $2.95, paper. *JEL 79–0930*

Examines the factors that shape the age and experience profile of the enlisted component of the United States armed forces. Discusses the nature of today's military jobs and evaluates the match between the occupational requirements of the modern military and its workforce. The authors, members of the research staff of the Brookings Foreign Policy Studies program, argue for changes in policies, such as changes in the retirement age and the grade structure, which would result in a more experienced armed forces; assess the costs of proposed changes; and conclude that reform "not only would allow the nation to field more effective armed forces but could save money as well." No index.

FRANK, ANDRE GUNDER. *Dependent accumulation and underdevelopment.* New York and London: Monthly Review Press, 1979. Pp. xx, 226. $15.00. *JEL 79–0931*

Explains underdevelopment by an "analysis of the production and exchange relations of dependence." Distinguishes the "three main stages or periods in this world embracing process of capital accumulation and capitalist development: mercantilist (1500–1770), industrial capitalist (1770–1870), and imperialist (1870–1930)." Analyzes each period in terms of history, trade relations between the metropolis and the periphery, and transformation of the modes or relations of production, and the "development of underdevelopment" in the principal regions of Asia, Africa, and the Americas. The basic theme is that the imbalance of trade or "the secular excess of the underdeveloped countries' exports over imports has throughout . . . made a fundamental contribution to the accumulation of capital, technological progress and economic development of the now developed countries; and . . . this exports surplus from the now underdeveloped countries has there developed the mode of production which underdeveloped Asia, Africa and Latin America." Three of the seven chapters have been published in journals. Bibliography; index.

GIERSCH, HERBERT, ed. *International economic development and resource transfer: Workshop 1978.* Tübingen, Germany: J. C. B. Mohr (Paul Siebeck), 1979. Pp. vii, 619. *JEL 79–0932*

Twenty-four previously unpublished papers from a workshop held in June 1978 at the *Institut für Weltwirtschaft,* Kiel University. Contributions organized under ten headings: Rural Industrialization, Employment and Economic Development;

Choice of Techniques and Industries for Growth and Employment; Agricultural Patterns and Policies in Developing Countries; Hypotheses for the Commodity Composition of East–West Trade; The Relationship Between the Domestic and International Sectors in Economic Development; Patterns of Trade in Services and Knowledge; Changes in Industrial Interdependencies and Final Demand in Economic Development; Public Aid for Investment in Manufacturing Industries; Institutional and Economic Criteria for the Choice of Technology in Developing Countries; and Problems of Measuring the Production and Absorption of Technologies in Developing Countries. Authors, chiefly economists, are from a variety of countries. No index.

HIGGINS, BENJAMIN AND HIGGINS, JEAN DOWNING. *Economic development of a small planet.* New York: Norton, 1979. Pp. x, 292. $14.95, cloth; $6.95, paper. *JEL 79-0933*

Focuses on the global nature of the development problem and the environmental, physical, and human limitations to economic growth as a vehicle for development. Points out that international economic policies that attempted to apply Western development formulas to development in the Third World during the period 1950 to the mid-1970's have failed and asserts that solutions to economic and social problems and improved quality of life within a non-socialist system lie with income redistribution within and between nations. Argues that productivity has been rising too slowly necessitating a reassessment of the key strategic features of the major systems for development (both socialism and capitalism), the role of political and sociocultural factors, patterns of foreign trade and investment, and the international economy generally. Concludes that the world's economic and social problems can be solved if "powerful nations reach an *entente,* and commit themselves to development" through "ingenuity and good management, . . . new frontiers of technological advance, new concepts of international organization, and new approaches to economic analysis and policy." Benjamin Higgins is a vice-dean for research at the University of Ottawa. Index.

POWELSON, JOHN P., ed. *A select bibliography on economic development: With annotations.* Westview Special Studies in Social, Political and Economic Development. Boulder, Colo.: Westview Press, 1979. Pp. xx, 450. $22.50. *JEL 79-0934*

Bibliography on economic development of more than 2,000 items, published in the main since 1970; "most . . . are annotated." The first section lists periodicals and international agencies' series dealing with global development, Africa, Asia, and Latin America; the second section is divided into 48 subject topics; and the last section is divided by area and country. Several works from related areas, such as politics, sociology, and history of LDC's, are included. Annotations are drawn from the *Journal of Economic Literature, Foreign Affairs, Latin America in Books,* and book publishers' or sellers' brochures. The compiler is program director of the Institute of Behavioral Science and Professor of Economics, University of Colorado. No index.

STEIN, LESLIE. *The growth of East African exports and their effect on economic development.* London: Croom Helm, 1979. Pp. 272. £11.95. *JEL 79-0935*

A development case study of Kenya, Uganda, and Tanzania for the period 1959–71, stressing the contribution of exports to development. Begins by summarizing the general economic conditions, policies, and trends in each country studied; examines comparatively the general export trends of the less developed countries and of East Africa; analyzes the growth of the region's major export crops and the trade flows of the East African Common Market; evaluates East Africa's trade instability and its impact on each country's economy; and concludes with a theoretical and empirical discussion of the relationship of trade to development. Although exports in these countries grew at a rate less than that of the LDC's as a whole, concludes that the evidence supports the view that a fairly strong export-growth relationship existed. The author is Senior Lecturer in Economics at the London School of Economics. Bibliography; index.

VILLAMIL, JOSÉ J., ed. *Transnational capitalism and national development: New perspectives on dependence.* Humanities Studies in Development Series. Atlantic Highlands, N.J.: Humanities Press, 1979. Pp. ix, 325. $37.50. *JEL 79-0936*

Fourteen essays, 11 previously unpublished, written by members of the Dependence Cluster at the Institute of Development Studies at the University of Sussex, on the impact of the changing world economy on countries of the periphery, particularly in light of the growing dominance of a relatively small number of large transnational corporations. In four parts: the papers in part one investigate some theoretical issues related to changes in the world system and the theories that interpret these changes, those in part two deal with transnational structures and processes, and those in part three focus on the impact of capitalist development and the role of the state. The final section considers alternatives to dependent capi-

talist growth. The editor is Associate Professor at the Graduate School of Planning, University of Puerto Rico. Index.

WATERSTON, ALBERT. *Development planning: Lessons of experience.* Paperback edition. Baltimore and London: Johns Hopkins University Press, [1965] 1979. Pp. xvii, 620. $8.95, paper. *JEL 79–0937*

Paperback edition of a textbook originally published in 1965 and last reprinted in 1974. Part one describes and analyzes the planning process drawn from the experiences of some 55 countries in Africa, Asia, Europe, and the Americas. Part two discusses comparatively the experiences of countries in establishing organizations and administrative procedures for preparing and implementing development projects, sectoral programs, and regional and national development plans. The author is a former advisor on planning organization in the Development Services Department of the World Bank. Name and subject indices.

See also: Book Numbers *JEL 79–0998, 79–1011, 79–1014, 79–1021, 79–1083, 79–1085, 79–1086, 79–1096, 79–1169*

120 COUNTRY STUDIES

BAER, WERNER. *The Brazilian economy: Its growth and development.* Columbus, Ohio: Grid, 1979. Pp. 239. $5.95, paper. *JEL 79–0938*

Traces the historical evolution of the Brazilian economy, focusing upon the process, methods, and impact of its industrialization in the twentieth century. Examines the institutional structure of Brazil's current mix of private and state capitalism and analyzes some aspects of its economic policies and system, which "account for the persistence of underdevelopment in the midst of economic growth." Part one offers the historical perspective, while part two deals with contemporary problems of foreign trade, inflation, regional imbalances, and agricultural growth and stagnation. The author is Professor of Economics, University of Illinois. Bibliography; index.

BLACKABY, F. T., ed. *British economic policy, 1960–74: Demand management.* National Institute of Economic and Social Research, Students' Edition, vol. 4. London; New York and Melbourne: Cambridge University Press, 1979. Pp. xiii, 454. *JEL 79–0939*

Demand management section of the larger volume *British Economic Policy, 1960–74.* [See *JEL no. 79–0082* for annotation of full-length edition.] Selected bibliography; index.

DIWAN, ROMESH AND DESAI, SURESH, eds. *Indian economy in the 1970s: Papers and proceedings relating to the second conference of the Association of Indian Economics Studies, Montclair, New Jersey, August 19–21, 1977.* Troy, N.Y.: Association of Indian Economics Studies, 1978. Pp. iv, 247. $7.00, paper. *JEL 79–0940*

Seventeen previously unpublished papers on various aspects of India's economic development including the economic implications of the manifesto of the Janata Party, socioeconomic factors in agriculture, alternative development strategies, depletion of resources, income redistribution, research, manpower planning, population, the role of women, the economics of the 1975 Indian Emergency, and the contribution of foreign economists to solving India's poverty. Part two consists of a synopsis of the Association's activities and programs. The editors are at Rensselaer Polytechnic Institute and Montclair State College, respectively. No index.

EL MALLAKH, RAGAEI. *Kuwait: Trade and investment.* Westview Special Studies in International Economics and Business. Boulder, Colo.: Westview Press, 1979. Pp, xxii, 262. $27.50. *JEL 79–0941*

Describes Kuwait's economic characteristics and social infrastructure, economic growth in the 1970's, its banking and monetary system, marketing operations, and bilateral and multilateral arrangements. Assesses investment trends and opportunities and considers the impact of Kuwait's capital-surplus funds on the region, Europe, and the United States. The author is Professor of Economics at the University of Colorado, Boulder. Lengthy appendices provide additional statistical and factual information on ministries and agencies, laws and regulations, licensing procedures, and trade. Selected bibliography; index.

EL MALLAKH, RAGAEI. *Qatar: The development of an oil economy.* New York: St. Martin's Press, 1979. Pp. 183. $21.95. *JEL 79–0942*

A study of economic conditions and development in this newly independent country and "small" member of the Organization of the Petroleum Exporting Countries (OPEC) and the Organization of the Arab Petroleum Exporting Countries (OAPEC). Examines the development of the oil sector, public finance and economic policy, agriculture and industry, the social and capital infrastructure, money and banking, and international trade and regional cooperation. The author, Professor of Economics at the University of Colorado, points out that, like in other oil-generated surplus-fund countries, the main constraint to Qatari eco-

nomic development is manpower. Also stresses the importance of "the ability of Qatar and, indeed, other Gulf states to cooperate in both economic and social development programmes." Bibliography; index.

HASAN, PARVEZ AND RAO, D. C. *Korea: Policy issues for long-term development: The report of a mission sent to the Republic of Korea by the World Bank.* World Bank Country Economic Reports. Baltimore and London: Johns Hopkins University Press for the World Bank, 1979. Pp. xx, 538. $25.00, cloth; $9.50, paper. *JEL 79–0943*

Seventeenth in the current series of World Bank country economic reports. Part one consists of "The Main Report" of several World Bank missions that visited the Republic of Korea in 1976: this part presents a broad analysis of the pattern of economic growth, 1961–76; assesses Korea's Fourth Plan, 1977–81; and identifies development issues for the 1980's. Part two is composed of three papers, which focus on human resources, discussing population trends, policies and programs; social development; and the labor supply and employment. The five papers in part three evaluate past performances and prospects for Korea's major sectors. Part four consists of appendices, containing a macroeconomic model, two short papers on the structure of exports and imports and on external capital, and statistical tables. Concludes that if, as seems probable, a rate of economic growth of more than 9 percent a year can be sustained and if special redistributive measures are adopted, Korea can anticipate full employment and the elimination of absolute poverty by 1990. Korea will have moved from a low-income LDC to a developed economy in 30 years. Index.

HONG, WONTACK. *Trade, distortions, and employment growth in Korea.* Seoul: Korea Development Institute, 1979. Pp. x, 400. *JEL 79–0944*

Analyzes the impact of export promotion on employment growth in Korea. Describes growth and trade in Korea, 1910–77; reviews economic policies and development plans, particularly those relevant to trade, for the period 1953–77; examines preferential direct and indirect tax policies, tariff and non-tariff import restrictions, and loan allocation policies; analyzes factor market distortions; and investigates the employment implications of trade and subsidy policies. A primary conclusion is that "the effect of export promotion on employment in Korea was a rapid growth in total employment in the 1960s, a relatively full employment since about 1970, and a change in the sectoral distribution of employment [from the farm to the manufacturing sector]." Part of the Korea modernization study, a joint undertaking by the Korea Development Institute and Harvard Institute for International Development. Includes a lengthy statistical appendix. No index.

INSTITUTO DE PLANEJAMENTO ECONÔMICO E SOCIAL. *Brazilian economic studies.* No. 4. Rio de Janeiro: Instituto de Planejamento Econômico e Social (IPEA)/Instituto de Pesquisas (INPES), 1978. Pp. 177. Paper. *JEL 79–0945*

Six previously unpublished papers, including: Dionísio Dias Carneiro Netto on recent behavior of the Brazilian economy in relation to government policy; João Sayad on financial markets; Hamilton C. Tolosa on dualism in the urban labor market; David E. Goodman and Daniel R. Oliveira on urban unemployment; Marcelo de Paiva Abreu on Brazil's foreign debt policy between 1913 and 1943; and Gervásio C. Rezende on employment problems in the agricultural region of Bahia. Also includes a review of recent foreign work on Brazil. [See *JEL nos. 79–0949* and *79–0956* for annotations of vols. 1 and 2.] No index.

KING, J. R. *Stabilization policy in an African setting: Kenya 1963–1973.* Studies in the Economics of Africa. Exeter, N.H.; London; Nairobi and Lusaka: Heinemann Educational Books, 1979. Pp. xi, 115. $21.50, cloth; $7.95, paper. *JEL 79–0946*

Examination of prices, unemployment, and the balance of payments and how they are influenced or controlled by government policies. Comparing the income-expenditure model with the monetary theory of the balance of payments, finds that the latter provides a more comprehensive picture of the economy and yields a much closer approximation to the real world. Part one is about stabilization policy, discussing the two models in the context of past and present controversies concerning stabilization policy. Part two is a case study of Kenya during its first ten years of independence, applying the stabilization models. Argues that the bases chosen for the teaching of stabilization policy influence the decisions of policy makers and thus the actual behavior of economies. Written for economics students in English-speaking Africa, "seeks to widen the horizons of the student rather than take the place of existing textbooks." The author, Economics Advisor in the Inland Revenue, London, was formerly Lecturer of Economics at the Universities of Mauritius, Nairobi, and Lancaster. Index.

LUNDAHL, MATS. *Peasants and poverty: A study of Haiti.* New York: St. Martin's Press, 1979. Pp. 699. $37.50. *JEL 79–0947*

Analyzes the Haitian peasant economy, mainly from the early 1950's to the early 1970's, and focuses on the secular tendency of rural per capita incomes to decline. Describes the basic facts about products and agrarian structure and methods of production in the peasant sector; reviews the cumulative process of stagnation and retrogression in the agricultural sector; examines the commodity markets in which the peasants operate; discusses the interaction between population growth, composition of peasant output, and erosion; analyzes the political role and government passivity in the agricultural sector; considers the impact of malnutrition, disease, and rural education; and assesses the problems of rural credit and resistance to innovations. Notes that: "government attitudes constitute a main bottleneck in the development process." The author is Research Fellow in the Department of Economics at the University of Lund, Sweden. Bibliography; index.

MAKDISI, SAMIR A. *Financial policy and economic growth: The Lebanese experience.* Modern Middle East Series, no. 12. New York: Columbia University Press, 1979. Pp. xiii, 212. $17.50. *JEL 79–0948*

Assesses Lebanon's economic and financial performance during the period 1945–74; discusses the role that government policy positions played in the national economy; and, considering the disruption of the 1975–76 civil war, evaluates the past and possible future roles of financial planning in the economic development of the country. An introduction focuses on financial policies and planning as they relate particularly to developing countries; part one constructs the Lebanese policy framework based upon national policy positions and assesses monetary developments and economic events against this background; part two evaluates monetary and exchange-rate policy and outlines elements of future financial policy for Lebanon. The author is chairman of the economics department at the American University of Beirut. Includes a statistical appendix. Selected bibliography; index.

MANSO DE ALMEIDA, WANDERLY J., ed. *Brazilian economic studies.* No. 1. Rio de Janeiro: Instituto de Planejamento Econômico e Social (IPEA)/Instituto de Pequisas (INPES), 1975. Pp. 274. Paper. *JEL 79–0949*

First volume in an annual series published by the Institute of Economic and Social Planning in Rio de Janeiro through its research institute (*Instituto de Pesquisas*) designed for foreign readers interested in the Brazilian economy; most of the papers will be a product of the Institute and have some focus on government policy. This volume comprises seven papers, including: Werner Baer on recent developments in the Brazilian economy; Carlos Von Doellinger on foreign trade policy; Ruy Miller Paiva on agricultural modernization and technological dualism in LDC's; and Claudio de Moura Castro on training the industrial labor force. Other topics covered are employment variations in the service sector (Wanderly J. Manso de Almeida); fiscal incentives for the industrialization of Brazil's Northeast (David E. Goodman, Júlio F. Ferreira Sena, and Roberto Cavalcanti de Albuquerque); and the macroeconomics of Brazil's urbanization (Hamilton Carvalho Tolosa). [See *JEL nos. 79–0945* and *79–0956* for other volumes in this series.] No index.

MAZUR, MICHAEL P. *Economic growth and development in Jordan.* Westview Special Studies on the Middle East. Boulder, Colo.: Westview Press, 1979. Pp. xvi, 314. $20.00. *JEL 79–0950*

An analysis of the economies of pre-1967 Jordan and the post-1967 East Bank. Presents: a primarily statistical evaluation of the economic development of Jordan for the period between the unification of the two banks and the 1967 Middle East war; a survey of economic change in Jordan 1967–75, which includes a critical evaluation of data available for that period; and an examination of government development policies in the areas of agriculture, industry, and general planning, with special emphasis on the Five-Year Development Plan for 1976–80. Concludes that in the absence of political disruptions and major cutbacks in foreign aid, Jordan has reasonable prospects for achieving a rate of growth comparable to that of prewar Jordan. Finds Jordan experienced rapid output growth prior to 1967, more modest growth from 1967 to 1975, and was a "booming economy" by the mid-1970's. The author is Assistant Professor of Economics, Dartmouth College. Bibliography; no index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *OECD economic surveys: Canada.* Paris: OECD, 1979. Pp. 64. *JEL 79–0951*

Examines domestic trends and balance of payments developments in 1978; discusses policy orientation, including industrial policy problems; and reviews trends in early 1979 and assesses economic prospects for the next twelve months. Major features of the 1978 Canadian economy were slow growth, higher unemployment, accelerating consumer prices, and larger external deficit. The continuing process of correcting fundamental imbalances resulted in a continued slowdown in the growth of money incomes and unit labor costs, and improvement in the international competitive

position. The outlook to mid-1980 is that output growth will remain around 3½ percent, below the rate of growth of capacity. Annexes present a chronology of main economic policy events, statistics, and international comparisons. No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *OECD economic surveys: Germany.* Paris: OECD, 1979. Pp. 76. $3.00, paper. *JEL 79-0952*

Part one reviews economic developments in 1978, focusing on the continuing strength of Germany's balance of payments. Part two analyzes fiscal and monetary policies since mid-1977. Part three discusses demand, output, prices, and the balance-of-payments outlook to mid-1980 and concludes with a survey of major policy considerations. Includes a chronology of main economic policy measures, a statistical annex, and international comparisons. No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *OECD economic surveys: Japan.* Paris: OECD, 1979. Pp. 63. *JEL 79-0953*

Part one reviews the main developments, *i.e.*, growth in domestic demand, improved labor market, moderated price increases, and the disappearance of the very large surplus in the balance of payments during 1978 and the early months of 1979. Part two discusses demand management and other economic policies, including energy policy, while part three examines the causes and implications of savings-investment balances of the main sectors in the medium-term. Part four assesses the short-term outlook and discusses policy objectives. Includes a statistical annex and international comparisons. No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *OECD economic surveys: Switzerland.* Paris: OECD, 1979. Pp. 63. $3.00, per country; $50.00 series subscription; paper. *JEL 79-0954*

In four parts, part one surveys domestic performance in 1978 and the beginning of 1979; part two examines external transactions; part three discusses monetary and fiscal policy as well as Switzerland's policy of industrial redeployment; and part four reviews the short-term outlook and summarizes economic policy conclusions. Assuming no change in the exchange rate or in economic policy, forecasts no significant acceleration in the Swiss economy in 1979; some increase in inflation; a constant volume growth (2.75 percent) in gross fixed-asset formation; a 1.75 percent increase in final domestic demand (compared to 2.1 percent in 1978), and a .5 percent volume growth of gross domestic product in 1979 (against .8 percent in 1978). Statistical annex; no index.

PERKINS, J. O. N. *Australia in the world economy.* Third edition. Melbourne: Sun Books, [1968, 1971] 1979. Pp. 182. A$14.95, cloth; A$5.95, paper. *JEL 79-0955*

Review of Australia and its problems in the field of internationl economic policy. This edition includes new material on balance of payments within the context of flexible exchange rates and on Australian international monetary arrangements in light of the numerous changes in the international scene during the 1970's. [See *JEL no. 71-1136* for previous annotation.] The author is Professor of Economics, University of Melbourne. Bibliography; index.

REZENDE, FERNANDO, ed. *Brazilian economic studies.* No. 2. Rio de Janeiro: Instituto de Planejamento Econômico e Social (IPEA)/Instituto de Pesquisas (INPES), 1976. Pp. 217. $5.00, paper. *JEL 79-0956*

Six papers. Wilson Suzigan looks at early industrial and economic policy in Brazil; Regis Bonelli considers the role of technology in the growth of Brazilian manufacturing; Claudio R. Contador discusses control of money where consideration is given to financial assets not included in traditional definitions of money; and Fernando Rezende discusses income taxation and distribution of tax burden. Also includes Dennis J. Mahar on development of the Western Amazon and Manoel A. Costa on internal migration and migrant adaptation. Also includes two reviews of works on Brazil, published abroad. [See *JEL nos. 79-0945* and *79-0949* for volumes 1 and 4.] No index.

SINGER, MORRIS. *Economic development in the context of short-term public policies: The economic advance of Turkey, 1938-1960.* Turkish Economic Society Publications. Ankara: Turkish Economic Society, 1978. Pp. xxiii, 522. $6.00 sea freight, $10.00 airmail, paper. *JEL 79-0957*

Study of the economic development of Turkey. Maintains that "the heads of state tended to focus their attention on the more immediate and short-tun economic problems of their country, and in the process they often harmed Turkey's long-run development and, in all likelihood, its short-term economic advance as well." Examines industrialization policies of the 1940's, agricultural policies of the 1950's, inflation, and international trade; argues that Turkish governments' failure to plan well for long-run development appears to result from "the decision to adopt a democratic system

of government and the play of external events." Data come from Turkish government sources, interviews with public and private individuals, and published works. The author is Professor of Economics, University of Connecticut. Bibliography; index.

TSANTIS, ANDREAS C. AND PEPPER, ROY. *Romania: The industrialization of an agrarian economy under socialist planning: Report of a mission sent to Romania by the World Bank.* Washington, D.C.: World Bank; distributed by Johns Hopkins University Press, Baltimore, 1979. Pp. xxxv, 707. $30.00, cloth; $9.95, paper. *JEL 79–0958*

Descriptive and analytical report on the development of Romanian economy for the period ending in July 1977 and its prospects for the future. Describes the organization and operation of the economy, assesses and reviews the country's economic achievements 1950–75, and provides some prospects for development during the next decade. Particular attention is paid to management and the country's central plans. Finds overall that: (1) the 1950's and 1960's created a strong base for growth; (2) the 1970's have been planned as the period of strength, industrial solidification, and emphasis on intensive agricultural development; (3) economic performance, 1971–75, was one of the most successful in Romania's history; (4) the 1976–80 picture appears to show an ever more intensive industrialization drive; (5) the 1980's will see a slowdown in the macroeconomy. About two-fifths of the book comprise appendices that contain information and statistics on organization, financing, national accounting, banking wages, social welfare, and other areas; a large number of tables on all areas of macroeconomic activity appear throughout the text. No index.

UPPAL, J. S., ed. *India's economic problems: An analytical approach.* Second edition. New York: St. Martin's Press, [1975] 1979. Pp. xiv, 409. $19.95. *JEL 79–0959*

Twenty-one papers by U.S.-based Indian economists, usable as a book of readings for undergraduate and graduate courses for students at Indian universities. In eight parts: the national economy, population, the primary sector, economic policy, labor and unemployment, the financial sector, public finance, and international economic relations. All chapters for this edition have been revised and statistical material has been brought up to date. New chapters have been added on Gandhian economics and the impact on the economy of "black money," *i.e.*, illegal earnings obtained through tax evasion, clandestine operations, and the performance of illegal services. The editor is Professor of Economics, State University of New York at Albany. Index.

WILSON, RODNEY. *The economies of the Middle East.* New York: Holmes & Meier, 1979. Pp. xiii, 209. $33.50. *JEL 79–0960*

A broad-based guide to the economies of 18 Middle Eastern countries, with separate chapters on the five most economically significant—Iran, Egypt, Turkey, Saudi Arabia, and Israel. Intended primarily for the businessman; focuses on the interplay of politics and economic development. The author is Lecturer in the Economics of the Middle East at the University of Durham. Index.

See also: Book Numbers *JEL 79–0912, 79–0934, 79–0935, 79–0966, 79–0968, 79–1106, 79–1157, 79–1179*

130 ECONOMIC FLUCTUATIONS; FORECASTING; STABILIZATION; AND INFLATION

CAGAN, PHILLIP. *Persistent inflation: Historical and political essays.* New York: Columbia University Press, 1979. $17.50, cloth; $7.50, paper. *JEL 79–0961*

Nine essays written during the period 1968–78 and presented here in sequence for the most part, with minor revisions from previously published versions. Part one discusses the nature and cause of inflation; part two is a historical survey of the escalation of inflation since 1965; part three offers analyses of policy issues, including the effects of a firm anti-inflationary policy on unemployment and the reduction of inflation by slack demand. The author, Professor of Economics at Columbia University, holds that "decreases in monetary growth first reduce output and employment, and only begin to affect most prices after a considerable time." He also writes that "even though the economic capability of subduing inflation exists, it is not encouraging that, after more than a decade of escalating inflation, a political consensus in favor of an effective anti-inflationary policy has still not formed." Index.

CRAINE, ROGER AND PIERCE, JAMES L., ET AL. *1978 West Coast Academic/Federal Reserve Economic Research Seminar.* San Francisco: Federal Reserve Bank of San Francisco, 1979. Pp. 190. Free, paper. *JEL 79–0962*

Six previously unpublished papers and related discussions on various topics of monetary policy, inflation, and purchasing power parity, from a conference held at the Federal Reserve Bank of San Francisco on 2 and 3 November 1978. Roger Craine and James L. Pierce consider the time structure of interest rates; Victor A. Canto, Douglas H. Joines, and Arthur B. Laffer present an in-

come expenditure version of the wedge model; William S. Haraf discusses the effects of monetary shocks on inventories and orders; Michael R. Darby looks at the NBER international transmission of inflation model; Richard James Sweeney writes on risk, inflation, and the rate of exchange; and Henry N. Goldstein examines floating exchange rates and modified purchasing power parity. No index.

ETTLIN, FRANZ A., ET AL. *The STEP 1 quarterly econometric model of Sweden: The equation system.* Stockholm: Economic Research Institute at the Stockholm School of Economics, 1979. Pp. v, 178. *JEL 79–0963*

Research report presenting the equations of the STEP 1 (Stockholm Econometric Project Model 1) quarterly econometric system, a model that is incorporated in the international econometric system of Project LINK. The system is basically conceived of as a structural economic and institutional model rather than as a forecasting model *per se.* Discusses estimation procedures (generally ordinary least squares), imposed restricitons, and treatment of lags. Includes list of over 600 variables, 362 of which are currently endogenous. Co-authors include: Johan A. Lybeck, Ingemár Erikson, Svante Johansson, and Björn Järnhäll. No index.

GILLION, C. AND O'NEIL, M. J. *An input-output model of structural development.* Research Paper no. 26. Wellington: Reserve Bank of New Zealand, 1978. Pp. 91. Free, paper. *JEL 79–0964*

Introduces a medium-term econometric input-output model of the New Zealand economy and employs it to project the size and configuration of the economy in 1986. Describes basic features of the model, discusses the forecasts of the exogenous and policy variables, and examines several alternative exogenous forecasts and their impact on projections. Notes that the model is chiefly concerned with supply side and does not incorporate considerations of the timing and feasibility of the growth path. The authors are Senior Lecturer in Econometrics at Victoria University of Wellington and Staff Member of the Economic Department of the Reserve Bank of New Zealand, respectively. No index.

GORDON, ROBERT J. AND PELKMANS, JACQUES. *Challenges to interdependent economies: The industrial West in the coming decade.* Introduction by EDWARD L. MORSE AND THOMAS WALLIN. 1980s Project/Council on Foreign Relations. New York; London; Montreal and Tokyo: McGraw-Hill, 1979. Pp. xii, 149. $9.95, cloth; $6.95, paper. *JEL 79–0965*

Two essays on macroeconomic management and the new economic nationalism. Robert Gordon, Professor of Economics at Northwestern University, in his review of domestic macroeconomic problems and policy, focuses upon the performance of the U.S. economy (assumed to be closed, except for oil imports) and discusses the "dispute" between the monetarists and the nonmonetarists, outlines a package of "policy priorities to achieve steady low-inflation growth in the 1980s." The second essay by Jacques Pelkmans, Assistant Professor of International Economics at Tilburg University in the Netherlands, analyzes the nature and future of international economic cooperation among Western countries; argues that the preservation of the achievements of negative economic cooperation is threatened by the need to adjust to the greater openness of the OECD economy; and concludes that the "nearly prohibitive barriers to positive policy cooperation, on the one hand, and the absence of any cooperative mechanisms for an adequate regulation of international trade growth, on the other, do not bode well for OECD-area adjustment." Selected bibliography; index.

HANSEN, JØRGEN, ET AL. *Nordic economic outlook: May 1979.* Economic Research Reports, no. 36. Stockholm: Swedish Industrial Publications, 1979. Pp. 39. *JEL 79–0966*

Semi-annual economic outlook for the economies of Denmark, Finland, Norway, and Sweden. Covers the general situation, trade, consumption, investment, labor, and costs and prices for each country. Predicts that for 1980: (1) only Norway will have a continued increase in investment; (2) the contribution to growth from the public sector will decline in all countries but Denmark; (3) import volumes will increase for the entire Nordic area; and (4) unemployment will decrease marginally in Finland and Sweden, remain constant in Denmark, and increase in Norway. No index.

HEATHFIELD, DAVID F., ed. *Perspectives on inflation: Models and policies.* London and New York: Longman, 1979. Pp. 238. *JEL 79–0967*

Eight previously unpublished essays examining inflation in terms of some exisitng models, with the question "What is inflation and what if anything ought to be done about it?" Phyllis Deane surveys the history of inflation and stabilization policy; Victoria Chick considers the multiplicity of views of the monetarist school; J. D. Byers examines inflation as related to the labor market; Shanti P. Chakravarty looks at raw materials and fuel as a source of inflation; George McKenzie raises the question of the international transmission of inflation; David F. Heathfield investigates pricing deci-

sions at the manufacturing and retail levels; J. A. Kregel discusses Keynes view of inflation; and Alec Nove describes administered prices in the Soviet Union and Poland. The editor notes that perhaps inflation is the result of the incompatibility of competing claims on the national or international income, but the loser in the distribution is pacified with an increase in money income (which pushes up prices). Therefore, inflation may "be the least disruptive method of reconciling the irreconcilable, and what is being lamented is the underlying conflict rather than the inflation itself." The editor is Senior Lecturer in Economics at the University of Southampton. Index.

LOONEY, ROBERT E. *The economic consequences of world inflation on semi-dependent countries.* Washington, D.C.: University Press of America, 1979. Pp. xvi, 281. $10.00, paper. *JEL 79–0968*

Analysis of the recent global inflation, including alternative theories and patterns, and examination of its effect on semi-dependent countries, *i.e.*, countries that can alter the impact of world price increases on domestic prices by domestic monetary and fiscal policies. Uses South Africa and Mexico as case studies. Discusses the nature and characteristics of the inflation of the 1970's, the patterns and measurement of world inflation, and the monetary model of "imported inflation." Also looks at inflation and its relation to monetary autonomy and devotes about one-third of the book to the study of the monetary arrangements and inflationary mechanisms in Mexico and South Africa. Finds, on a global level, that nearly all inflation in the late 1960's and early 1970's can be attributed to the quickened rate of growth of the world money supply. Concludes that semi-dependent countries can reduce unemployment by allowing some flexibility in their exchange rates and can reduce inflation by a gradual and steady reduction in the growth of the money supply. Includes numerous tables and figures on sources and levels of worldwide inflation since the 1950's. The author is Associate Professor of International Economics at the Monetary Institute of Foreign Studies, Monterey, California. Bibliography; no index.

[MASON, WILL E.] *The political economy of policy-making: Essays in honor of Will E. Mason.* Edited by MICHAEL P. DOOLEY, HERBERT M. KAUFMAN, AND RAYMOND E. LOMBRA. Foreword by ROBERT W. CLOWER. Comparative Political Economy and Policy Series, vol. 4. Beverly Hills and London: Sage, 1979. Pp. 248. $18.50, cloth; $8.95, paper. *JEL 79–0969*

Ten previously unpublished essays on the economic issues involved in the formulation and implementation of public policy written in honor of Will E. Mason, Professor of Economics at Pennsylvania State University, on the occasion of his retirement. The central theme running through all the papers is that the apparent inability of economic theory to explain reality may be due in part to the failure to extend economic theory to the behavior of governments and the failure to come to grips with the interdependencies between the public and private sectors. In three parts: economic instability and stabilization policy; equity and efficiency considerations; and policy-making in an open economy. Contributors include: Robert E. Weintraub; Thomas M. Havrilesky; Thomas M. Humphrey; William J. Baumol; Edward J. Kane; Charles C. Baker, Jr.; Lance Girton and Don Roper; and the editors. M. P. Dooley is a staff member of the Federal Reserve Board, and H. M. Kaufman and R. E. Lombra are Associate Professors of Economics at Arizona State University and Pennsylvania State University, respectively. No index.

MINSKY, HYMAN P. *The financial instability hypothesis: Capitalist processes and the behavior of the economy.* Rome: Confederazione Generale dell'Industria Italiana, Centro Studi, 1979. Pp. 52. Paper. *JEL 79–0970*

Elaborates on the "Financial Instability Hypothesis," an attempt to construct an economic theory that recognizes the capitalism specific nature of modern financial relations. Finds that this hypothesis leads to the view that "the internal workings of a capitalist economy generate financial relations that are conducive to instability." [See *JEL no. 79–0423* for annotation of an earlier monograph on the same topic, published while Professor Minsky was a Visiting Scholar at the *Confederazione Generale dell'Industria Italiana.*] No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *The case for positive adjustment policies: A compendium of OECD documents, 1978/79.* Paris: OECD, 1979. Pp. vi, 139. $4.00, paper. *JEL 79–0971*

Presents the main documents related to the work since early 1978 of the OECD Council and Committees on policies to facilitate structural adjustments needed in economies to sustain faster economic growth. The general orientations report of the General Council represents a political commitment by member countries to a progressive shift to more positive adjustment policies and defines the basic principles for policy-makers; specialized committees report on particular adjust-

ment policy problems, *e.g.*, employment and industrial decision-making. Also presents Secretariat Documents and "Opinions" of the Consultative Bodies on adjustment policies. No index.

PERKINS, J. O. N. *Crisis-point in Australian economic policy?* Melbourne: MacMillan of Australia, 1978. Pp. v, 50. A$1.95, paper. *JEL 79-0972*

Booklet for the layman of the areas on Australian economic policy that are in need of revision as of mid-1978. Discusses stagflation, budget deficits, income tax indexation, wages and taxes, balance of payments, capital inflows, and resource allocation. Concludes that macroeconomic policy has failed in Australia because governments have "tried to stimulate activity by the method of adding to the money supply, and by spending more themselves—rather than by cutting taxes on output and employment . . . [adding] more to the level of spending than to the supplies of goods." The author is Professor of Economics, University of Melbourne. Glossary; no index.

PERKINS, J. O. N. *The macroeconomic mix to stop stagflation.* New York: Wiley, Halsted Press; London: Macmillan Press, 1979. Pp. ix, 193. *JEL 79-0973*

The central argument is that "there is a combination of measures that would enable governments to hold down the rate of inflation . . . without continuing to make the large sacrifices of output, and so of economic welfare . . . and yet without relying solely or mainly (and perhaps not even at all) on some form of voluntary or compulsory prices and incomes policy." Successively develops a mix of monetary and budgetary measures (1) to reduce the price level in a closed economy without changing the level of activity; (2) to solve the problem of too high a level of unemployment combined with too rapid a rate of inflation; (3) applies these to an open economy, particularly examining the issue of exchange rate policy; and (4) finally, incorporates international arrangements. The author, Professor of Economics at the University of Melbourne, also considers the complications and limitations, especially political ones, to the process of applying his principles. Appendices discuss the policy mix and the aggregate supply schedule as well as the functional relationships underlying the proposals. Index.

SAWYER, JOHN A., ed. *Modelling the international transmission mechanism: Applications and extensions of the Project LINK system.* Contributions to Economic Analysis, no. 121. Amsterdam; New York and Oxford: North-Holland, 1979. Pp. x, 423. $73.25. *JEL 79-0974*

Fifteen previously unpublished papers intended to bring information on the LINK system up to date to the summer of 1977 and report on research at LINK centers (LINK is a project to link together national econometric models of all countries so as to improve predictions of policy outcomes and understand the international transmission of economic forces). Part one focuses on the use of LINK systems to forecast world trade; part two is devoted to study of the application of LINK to the analysis of shocks and policy changes as they affect world trade and international fluctuations; and part three deals with extensions of the system since the publication of the second volume of this project in 1976 [see J. Waelbroeck, *JEL no. 77-0108*; first volume edited by R. J. Ball, *JEL no. 74-0104*]. The last part concerns new work, which extends the process to include capital flows and make exchange rates endogenous and, in turn, subsequent modification in the monetary sectors of the model. The editor is at the University of Toronto. Bibliography; author and subject indices.

SIVEN, CLAES-HENRIC. *A study in the theory of inflation and unemployment.* Studies in Monetary Economics, volume 4. Amsterdam; New York and London: North-Holland, New York, 1979. Pp. xiii, 372. $41.50. *JEL 79-0975*

Develops a theory to take into consideration the interaction between the processes of price increases and wage increases. Bases a macroeconomic model on "a microeconomic analysis of the behavior of rational firms and households acting in a world where information about transaction possibilities is imperfect and where contacts between trading partners are costly to achieve." Includes a survey of the literature; the microeconomic analysis of households and firms (which covers consumption, supply of labor, and search activity in an intertemporal perspective; the behavior of the unemployed; and the price, wage, and information policy of the firm in an intertemporal perspective); and the aggregation of the behavior equations of households and firms into a dynamic model of inflation and unemployment. The author is a member of the Department of Economics, University of Uppsala. Bibliography; name and subject indices.

TSUKUI, JINKICHI AND MURAKAMI, YASUSUKE. *Turnpike optimality in input-output systems: Theory and application for planning.* Contributions to Economic Analysis, no. 122. Amsterdam; New York and Oxford: North-Holland, 1979. Pp. xi, 260. $51.25. *JEL 79-0976*

Maintains that long-term overall planning, taking account of change in industrial structure and

demand patterns, is a need in market-oriented economies. Explores the use of dynamic input-output models for indicative planning. Attempts to demonstrate ways in which the turnpike property of optimal solutions to input-output systems plays a central role in specifying national objectives as well as in other theoretical and practical aspects of the planning process. Provides theoretical survey of turnpike theorems for dynamic input-output models, presents a computer-based simulation model of the Japanese economy that includes nonlinearity and technological change as variations, treats consumption turnpike models, and examines problems that foreign trade poses for dynamic input-output systems. Extends analysis to concrete case of pollution control in Japan; concludes that the economic costs of abating five pollution factors are not excessive for the Japanese economy. The authors are members of the Institute of Social and Economic Research at Osaka University and of the Department of Social Science at the University of Tokyo, respectively. Index.

WALTON, CLARENCE C., ed. *Inflation and national survival: Proceedings of the Academy of Political Science.* Volume 33, Number 3. New York: Academy of Political Science in conjunction with the American Council of Life Insurance, 1979. Pp. x, 230. Paper. *JEL 79–0977*

Eighteen previously unpublished essays by economists on the danger of inflation to national survival, originally presented at a conference sponsored by the American Council of Life Insurance, held on 21–24 February 1979, at Williamsburg, Virginia. In four parts: divergent perspectives on inflation; government's impact on inflation; problem areas, health care, the war industry, and the labor force; and evolution of alternative solutions, monetary and fiscal policy, leverage of investment, tax incentives, incomes and unemployment policies, productivity increases, and government intervention. The contributors conclude in part that massive budget deficits should not be permitted to go on indefinitely; that monetary policy should aim at decelerating the growth rate of the money supply; that government support programs are inflationary and inefficient; that policies be adopted to stimulate investment and R&D to improve productivity; and that excessive regulation that has impaired productivity growth should be reversed. The editor is Professor of Business, Graduate School of Business, Columbia University. Index.

See also: Book Numbers *JEL 79–0891, 79–0929, 79–0980, 79–1031, 79–1033, 79–1103*

200 Quantitative Economic Methods and Data

210 ECONOMETRIC, STATISTICAL, AND MATHEMATICAL METHODS AND MODELS

[COOPER, WILLIAM WAGER.] *Quantitative planning and control: Essays in honor of William Wager Cooper on the occasion of his 65th birthday.* Edited by YUJI IJIRI AND ANDREW B. WHINSTON. New York and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xxx, 344. $29.50. *JEL 79–0978*

Nineteen previously unpublished papers prepared by students and associates of William Wager Cooper to honor him on his sixty-fifth birthday. Contributions organized under four headings: mathematical programming and decision models; economic development and firm growth; manpower planning and design; and accounting and control. Includes three prefatory notes by Herbert A. Simon, A. Charnes, and Andrew C. Stedry. The honoree was University Professor of Management Science and Public Policy at Carnegie-Mellon University and is currently Arthur Lowes Dickinson Professor of Accounting at Harvard Business School. The editors are Robert M. Trueblood Professor of Accounting and Economics at Carnegie-Mellon University and Professor at Krannert Graduate School of Management at Purdue University, respectively. Bibliography of Cooper's works. No index.

HENN, RUDOLF, ET AL., eds. *Methods of operations research.* No. 30. Königstein, Germany: Athenäum/Hain/Scriptor/Hanstein, 1979. Pp. 214. DM 64,00, paper. *JEL 79–0979*

Nineteen previously unpublished papers (six of them in German) on topics ranging from manipulative voting schemes and optimal design to branch and bound clustering and network analysis, by contributors from Germany, the United Kingdom, and Israel. Four of the papers included on network analysis were presented at the Second Symposium on Operations Research held in Aachen in September 1977. No index.

HOLLY, SEAN; RÜSTEM, BERÇ AND ZARROP, MARTIN B., eds. *Optimal control for econometric models: An approach to economic policy formulation.* New York: St. Martin's Press, 1979. Pp. xiii, 303. $37.50. *JEL 79–0980*

Twelve previously unpublished papers dealing with various aspects of the application of control theory techniques to econometric models and to economic policy making. Contributions by British, American, Australian, and Canadian researchers

based on papers delivered at 1977 conference held at Imperial College, London. Papers organized under four headings: the first consists of a paper outlining the prominent features of optimal economic policy making; the second contains papers offering specific applications of control theory to the formulation of economic policy; the third group of papers discuss stabilization policies with small linear econometric models; and the last section includes papers addressing problems of applying linear control theory to large nonlinear econometric models. Index.

JÖRESKOG, KARL G. AND SÖRBOM, DAG. *Advances in factor analysis and structural equation models.* With an introduction by WILLIAM W. COOLEY. Edited by JAY MAGIDSON. Cambridge, Mass.: Abt Books, 1979. Pp. xxviii, 242. $23.00. *JEL 79-0981*

Develops a framework for causal modeling based on advances in factor analytic techniques and on Jöreskog's linear structural relations methodology (LISREL) and illustrates their utility in applications in the social sciences. All but the first chapter arc reprinted articles from journals or collections. Presents the basic features of factor analysis, discusses extensions incorporating zero-restrictions and constrained maximum likelihood techniques to achieve identification of (unobserved) factor loadings, and presents an approach for treating factors as non-orthogonal. Develops the LISREL approach to estimating structural models that specify causal linkages among factors and multiple indicators of factors. Describes the LISREL approach for simultaneously identifying differences among populations associated with different causal structures. Three of the twelve chapters were written by the second author. The authors are Professor of Statistics and Research Associate, respectively, at the University of Uppsala, Sweden. Index.

KRIENS, JACOBUS, ed. *Convex analysis and mathematical economics: Proceedings of a symposium, held at the University of Tilburg, February 20, 1978.* Lecture Notes in Economics and Mathematical Systems, Mathematical Economics, no. 168. Berlin and New York: Springer-Verlag, 1979. Pp. iv, 136. $9.00, paper. *JEL 79-0982*

Three previously unpublished papers on recent developments in relating convex analysis to mathematical economics. "Economic Theory and Duality" (P. H. M. Ruys and H. N. Weddepohl, University of Tilburg) explores relations between optimality and equilibrium concepts in economic theory and duality concepts in convex analysis. "The Dynamics of Concave Input/Output-Processes" (J. J. M. Evers, Twente University of Technology, the Netherlands) examines dynamic I/O-processes, invariant dynamic optimality, and the existence of optimal trajectories. "Convex Processes and Hamiltonian Dynamical Systems in Economics" (R. T. Rockafellar, University of Washington, Seattle) investigates the behavior of Hamiltonian functions associated with set-valued mappings representing technology constraints. No index.

KRUSKAL, WILLIAM H. AND TANUR, JUDITH M., eds. *International encyclopedia of statistics.* 2 vols. New York: Macmillan, Free Press; London: Collier Macmillan, 1978. Pp. xxi, 1–666; 667–1350. $100.00. *JEL 79-0983*

Contains 70 articles on statistics proper, "numerous articles on social science topics with strong statistical flavor, and about 45 biographies"; reprinted, with revisions, from the *International Encyclopedia of the Social Sciences* (1968). Five new articles and twelve new biographies have been added. W. H. Kruskal is Ernest DeWitt Burton Distinguished Service Professor of Statistics, University of Chicago, and J. M. Tanur is Associate Professor in the Department of Sociology, State University of New York at Stony Brook. Index.

NERLOVE, MARC; GRETHER, DAVID M. AND CARVALHO, JOSÉ L. *Analysis of economic time series: A synthesis.* Economic Theory, Econometrics, and Mathematical Economics series. New York and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xvi, 468. $29.50. *JEL 79-0984*

Attempts to integrate: the formulation and estimation of distributed-lag models of dynamic economic behavior, the application of spectral analysis to economic time series, and unobserved-components models and the problem of seasonal adjustment. In addition, provides chapters illustrating applications to the study of serial dependence in several U.S. price series and to the time-series modeling of the U.S. cattle industry. The authors are at Northwestern University, California Institute of Technology, and Fundação Getúlio Vargas-EPGE, Rio de Janeiro, respectively. Author and subject indices.

OETTLI, WERNER AND STEFFENS, FRANZ, eds. *III Symposium on Operations Research, Universität Manheim, September 6–8, 1978—Proceedings.* Sections 1–5. In cooperation with HERMANN GÖPPL AND PETER KALL. Methods of Operations Research, nos. 31–35. Königstein, Germany: Athenäum/Hain/Scriptor/Hanstein, 1979. Pp. 749,

DM 198,00; 219, DM 75,80; 472, DM 134,80; 324, DM 109,80; 598, DM 179,80; paper.

JEL 79–0985

Two hundred fourteen previously unpublished papers (one hundred fifty-eight in English) on various theoretical and applied aspects of operations research and mathematical economics. Each volume is devoted to a particular topic: continuous optimization (vol. 31; 64 papers); discrete optimization (vol. 32; 27 papers); applied stochastics, statistics, and econometrics (vol. 33; 41 papers); mathematical economics (vol. 32; 31 papers); and applications (vol. 35; 51 papers). Contributors represent institutions from a variety of countries. No indices.

RAPOPORT, AMNON, ET AL. *Coalition formation by sophisticated players.* Lecture Notes in Economics and Mathematical Systems, Mathematical Economics, no. 169. Berlin; Heidelberg and New York: Springer-Verlag, 1979. Pp. vii, 170. $9.80, paper.

JEL 79–0986

Evaluates differences in coalition frequencies and payoff disbursements between sophisticated and naive subjects of a series of computer-controlled, four-person, characteristic function games with sidepayments. Employs results to test some of the major game-theoretic solution concepts for *n*-person games in characteristic function form. Finds sophisticated players to be less restricted in coalition choice and finds their payoffs to be less variable and less egalitarian. Compares results with previous studies. Presents experimental data from sophisticated subjects in appendix for use in testing future solution concepts. Amnon Rapoport is a member of the Department of Psychology, at the University of North Carolina, Chapel Hill; co-authors include: Sandra G. Funk, University of North Carolina; James P. Kahan, University of Southern California, Los Angeles; and Abraham D. Horowitz, General Motors Research Laboratories. No index.

See also: Book Numbers *JEL 79–0899, 79–1055*

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

FIELD, FRANK, ed. *The wealth report.* Inequality in Society series. London and Boston: Routledge & Kegan Paul, 1979. Pp. x, 196. $16.50.

JEL 79–0987

Eight previously unpublished papers by economists and other social scientists on the distribution of wealth in Great Britain. Louie Burghes looks at the change in the distribution of wealth, 1900 to 1975; Alan Harrison focuses on the more recent changes and factors affecting distribution; Chris Pond discusses the problems of the wealthy since the economic downturn began in 1974; Anthony Christopher considers tax avoidance; and Frank Field examines the collapse of profits in Britain. Also includes: Cedric Sandford on the wealth tax and constraints on its introduction; Ceri Thomas on the sociology of the rich in Eaton Square; and David Jordan on the work of the Review Body on top salaries. Finds in part that: the decline in share of personal wealth of the top 1 percent has fallen at 4 percent a decade rather than 7 percent, and that the share of the next 4 percent has been increasing. The editor is Director of the Child Poverty Action Group, London. Bibliography; index.

GINOR, FANNY. *Socio-economic disparities in Israel.* Tel Aviv: David Horowitz Institute for the Research of Developing Countries, Tel Aviv University; New Brunswick, N.J.: Transaction Books, Rutgers University, 1979. Pp. xi, 313.

JEL 79–0988

An analysis of the social and economic inequalities of Israel, their causes, development, and impact. In three parts: Part one examines the economic and demographic data since 1919 and discusses the major trends in Israel's socioeconomic development since the Mandatory period; part two focuses on income distribution in the early 1970's, using multiple regression analysis and statistical analysis to investigate income differentials, determinants of family income, and the characteristics of poverty groups; part three compares income distribution in Israel with that in other countries and examines income inequality in the world generally. Some findings are that (1) the low income categories consisted of those who did not work because of age or disability and those who worked but had low earning power because of low educational and occupational levels, (2) Israel compared well even with countries with a higher standard of living, and (3) full employment and economic growth are necessary to reduce income inequality. The author is former Professor of Economics at Tel-Aviv University. Bibliography; author and subject indices.

GORDON, LINCOLN. *Growth policies and the international order.* 1980s Project/Council on Foreign Relations Studies. New York; London; Madrid and Toronto: McGraw-Hill, 1979. Pp. xvi, 183. $9.95, cloth; $6.95, paper. *JEL 79–0989*

Examines the nature, extent, and strategies of structural growth policies intended to influence significantly the composition and location of economic activity in national economies over the long

run (five to thirty years). Focuses on the exigencies of structural change *vis-à-vis* the rising cost of energy, the food crises of the early 1970's, pressure from the less developed countries for better access to world markets, and rapid world population growth. Argues that the "principal issues of structural growth policy arise not from physical constraints," which the author terms the "Red Herrings of Allocations, Lifeboats, and Triage," but from "shifts in attitudes and other social factors." Suggests further that "the organized international consideration of structural growth policies . . . must become an important component of the foreign policies of the United States and other leading nations." The author is presently a Senior Fellow at Resources for the Future, Inc., in Washington, D.C., and formerly U. S. Ambassador to Brazil, Assistant Secretary of State for Inter-American Affairs, and President of the Johns Hopkins University (1967–71). Selected bibliography; index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *Interfutures: Research project on "The Future Development of Advanced Industrial Societies in Harmony with that of Developing Countries."* Final Report. *Facing the future: Mastering the probable and managing the unpredictable.* Paris and Washington, D.C.: OECD, 1979. Pp. viii, 425. $20.00, paper. *JEL 79–0990*

Analyzes the longer-term prospects, constraints, and issues facing the industrialized countries, both in their own development and in their relations with developing countries. Focuses upon possible physical limits to growth; the interaction between growth, structural adaptation, and value changes; North–South relations; and expanded international interdependence and cooperation. Argues that political, economic, and social problems, not physical limits, represent the greatest challenge for the future, and predicts that "the most likely trend is one of moderate growth in the developed countries, . . . differentiation of the Third World, adoption of policies to subtly promote national economic activities by measures with neo-protectionist features directed North–North as much as North–South." Concludes with policy recommendations for the creation of a positive attitude toward the future, better coordination of economic policies among OECD countries, facilitating development of the Third World, and managing global interdependence. No index.

See also: Book Numbers *JEL 79–0964, 79–0998, 79–1042, 79–1084, 79–1101, 79–1133, 79–1142, 79–1155*

300 Domestic Monetary and Fiscal Theory and Institutions

310 DOMESTIC MONETARY AND FINANCIAL THEORY AND INSTITUTIONS

BENSTON, GEORGE J.; HORSKY, DAN AND WEINGARTNER, H. MARTIN. *An empirical study of mortgage redlining.* Monograph Series in Finance and Economics, Monograph no. 1978–5. New York: New York University, Graduate School of Business Administration, Saloman Brothers Center for the Study of Financial Institutions, 1978. Pp. xi, 113. $3.00, paper. *JEL 79–0991*

Explores the existence of mortgage redlining (the refusal of lenders to invest in certain neighborhoods) in Rochester, New York, by comparing a presumed redline area of the central city and a suburban area. Examines the collateral and creditworthiness of borrowers, the demand for mortgages, and reasons for choosing FHA mortgages over alternatives. Finds no adequate evidence of redlining in the Rochester area. Includes a review and criticism of representative empirical research on redlining. The authors are Professor of Accounting, Economics, and Finance at the Graduate School of Management at the University of Rochester; Assistant Professor of Marketing at the Graduate School of Management at the University of Rochester; and Brownlee O. Currey Professor of Finance at the Owen Graduate School of Management at Vanderbilt University, respectively. No index.

CROUGH, G. J. *Transnational banking and the world economy.* With a contribution by VICTORIA CHICK. Sydney: Transnational Corporations Research Project, University of Sydney, 1979. Pp. vii, 320. $A21.95, cloth; $A16.95, paper. *JEL 79–0992*

Traces the growth of transnational financial institutions and describes their activities in selected developed capitalist countries; examines the interpenetration of domestic financial systems by transnational institutions and the impact on the legislative framework; discusses the Eurocurrency market and the direction of international lending; and examines the role and influence of transnational financial institutions in Australia. Includes a chapter entitled "Transnational Corporations and the Evolution of the International Monetary System" by Victoria Chick, a lecturer in monetary economics at the University College, London. Greg Crough is a research assistant in the Transnational Corporations Research Project. Appendices provide additional data. No index.

HORVITZ, PAUL M. *Monetary policy and the financial system.* Fourth edition. Englewood Cliffs, N.J.: Prentice-Hall, [1963 . . . 1974] 1979. Pp. xv, 592. $16.95. *JEL 79-0993*

Textbook on monetary theory and policy and the financial system. The factual material appears to have been brought up to date; gives no indication of other changes from the previous edition [see *JEL no. 74-0748*]. The author is Professor of Finance, University of Houston. Index.

DE KEYSER, ETHEL, ed. *Guide to world commodity markets.* Second edition. Assisted by SUE BRINKHURST, ANITA KOGAN AND DAVID YOUNG. London: Kogan Page; New York: Nichols, [1977] 1979. Pp. 383. $35.00. *JEL 79-0994*

Survey of commodity markets. Part one comprises six short papers on the development and function of the commodity market (John Edwards), the growth of the financial futures markets (Paul Sarnoff), commodity options (Dermot S. L. Butler), investment and speculation in commodities (James Sweeney), information sources (Ivan W. Lynch), and the first international aluminum futures market (John Wolff). Part two contains background articles on the traded commodities (cocoa, coffee, copper, cotton and wool, grains, lead, rubber, silver, sugar, tin, zinc) together with production and consumption statistics for the past decade, and part three lists information by country on the commodity market in 21 countries. Appendices contain lists of commodity market members by country and a glossary of commodity market terms. Index.

SINKEY, JOSEPH F., JR. *Problem and failed institutions in the commercial banking industry.* Contemporary Studies in Economic and Financial Analysis, Vol. 4. Greenwich, Conn.: JAI Press, 1979. Pp. xxix, 287. $24.50. *JEL 79-0995*

Offers a brief historical review and outlines the U.S. system of banking regulation and the process of bank examination. Discusses the financial characteristics of problem and failed banks, examines the concepts and procedures of early-warning systems, and analyzes several recent bank failures, including the Franklin National Bank of New York. Considers the role of commercial banks in the real estate investment trust (REIT) industry, reports on a survey of bankers' attitudes, and concludes that "the [U.S.] banking system is relatively healthy and the banking agencies have done an adequate job of carrying out their statutory responsibility to assure a safe and sound banking system." May be used as a supplementary textbook in courses in banking or finance. The author is Associate Professor of Banking and Finance, College of Business Administration, University of Georgia. Index.

VANE, HOWARD R. AND THOMPSON, JOHN L. *Monetarism: Theory, evidence and policy.* New York: Wiley, Halsted Press; Oxford: Robertson, 1979. Pp. viii, 200. $27.50. *JEL 79-0996*

Undergraduate text for second and third year students. Emphasizing both theoretical and empirical issues, the authors consider the underpinnings of monetarism, the supply and demand for money, money and inflation, monetary and fiscal policy, and money and the balance of payments. Concludes with a summary of the main differences between monetarists and Keynesians and the stance of monetarists with regard to government intervention. Assumes familiarity with economic principles and the *IS-LM* model. The authors are Lecturer and Senior Lecturer in Economics, respectively, at Liverpool Polytechnic. Index.

See also: Book Numbers *JEL 79-0922, 79-0946, 79-0962, 79-0970, 79-1180*

320 FISCAL THEORY AND POLICY; PUBLIC FINANCE

BRACEWELL-MILNES, BARRY. *Tax avoidance and evasion: The individual and society.* London: Panopticum Press, 1979. Pp. 119. £3.00. *JEL 79-0997*

Examines the political, moral, and religious aspects of tax avoidance and evasion, their relationship to the right of rebellion, and their economic consequences. Focusing primarily on experience in Great Britain, argues that the less burdensome taxes become, the less the incentive for avoidance and evasion. Argues that tax minimization through avoidance, in principle, benefits the economy as well as the avoider by frustrating the shifting of activity that a tax would otherwise induce. The author is a consultant on government and international fiscal and economic policy. Bibliography; no index.

HELMERS, F. L. C. H. *Project planning and income distribution.* Studies in Development and Planning, vol. 9. Boston; The Hague and London: Martinus Nijhoff, 1979. Pp. 295. $19.95. *JEL 79-0998*

Study incorporating income distribution consideration into traditional project planning for developing countries. Part one examines conventional methods of investment assessment, including valuation of benefits and costs, the rules for maximizing net benefits of a single project, and miscellaneous and external considerations. Part two focuses on income distribution, and reviews the social welfare

function, the intertemporal and interpersonal aspects of income distribution, and several case studies. Contends that in determining the priority of projects, those that have distributive consequences should be examined with some emphasis on the gains and losses of the different income groups. Argues that in trying to eradicate poverty, the development strategy must take account of efficiency and inequity, and that "the calculation of economic and social rates of return make it possible to choose investment programs geared towards raising the incomes of the poor without neglecting efficiency." Compound and discount tables and a table for the estimation of social weights are in appendices. The author is a staff member of the World Bank. Index.

HOCKLEY, GRAHAM C. *Public finance: An introduction.* Second edition. London and Boston: Routledge & Kegan Paul, [1970] 1979. Pp. xxiii, 448. $22.50, cloth, $15.00, paper. *JEL 79–0999*

Text in British public finance; second edition is revised and retitled (formerly, *Monetary Policy and Public Finance* [see *JEL no. 71–0138*]). This edition includes new material on local government and regional finance and two new chapters on the financial system and social services. The rest of the text has been rewritten to account for recent changes in the monetary and fiscal fields. The author is Senior Lecturer, Department of Economics, University College, Cardiff. Index.

KLOMAN, ERASMUS H., ed. *Cases in accountability: The work of the GAO.* Boulder, Colo.: Westview Press, in cooperation with the National Academy of Public Administration, 1979. Pp. x, 254. $15.00, cloth; $7.50, paper. *JEL 79–1000*

Twenty-eight previously unpublished papers by twenty-two authors that provide factual and descriptive illustrations of the studies and reviews of the United States General Accounting Office; a companion volume to *The GAO: The Quest for Accountability in American Government* by Frederick C. Mosher [see *JEL no. 79–1004*]. Each case looks at the background of the problems and the sources and reasons for the GAO study, describes how the review was planned and organized, and comments on the developments subsequent to the GAO study. In six parts: cases on whether the desired benefit has been realized; economy and efficiency in organizational use of resources; propriety of the financial report of an audited entity; legal cases; special studies, such as Congressional requests; and mini-cases on the smaller problems in federal agencies. Cases include questions for discussion. The editor is Senior Research Associate at the National Academy of Public Administration, Washington, D.C. No index.

KRAMER, FRED A., ed. *Contemporary approaches to public budgeting.* Cambridge, Mass.: Winthrop, 1979. Pp. ix, 239. Paper. *JEL 79–1001*

Thirteen previously published essays, on the three major budgetary reforms of the past 20 years: program budgeting, management by objectives, and zero-base budgeting. Includes an introductory paper by the editor on the political nature of public budgeting. Contributions include descriptions by advocates of the various techniques, examples of historical applications, as well as theoretical criticisms of techniques. Concluding papers address the problem of implementing budget reforms. The editor is a political scientist at the University of Massachusetts, Amherst. No index.

LINDHOLM, RICHARD W. AND WIGNJOWIJOTO, HARTOJO. *Financing and managing state and local government.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xviii, 436. $29.50. *JEL 79–1002*

Describes the development and current position of the major areas of state and local government. Discusses basic elements of each function with lists of in-depth analyses of programs and related information sources. Includes more than five hundred questions at the end for use in studies of specific state, county, or urban areas. The authors are Professor of Finance, University of Oregon, and Research Associate, the Center for International Studies and member of the research staff, the Energy Laboratory, Massachusetts Institute of Technology, respectively. Index.

LYNCH, THOMAS D. *Public budgeting in America.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xiv, 329. $15.95. *JEL 79–1003*

Text for a two-semester undergraduate or graduate course in public budgeting. After introducing budgets and modern budgeting, the author discusses the economy and government; budget preparation, behavior, and review; cash management, and accounting and auditing. Also covers: capital budgeting, revenue systems, analysis for budgeting, and financial management. Each chapter includes review questions and references. No prerequisite mentioned. The author is a member of the Department of Political Science, Mississippi State University. Glossary; index.

MOSHER, FREDERICK C. *The GAO: The quest for accountability in American government.* Boulder, Colo.: Westview Press, in cooperation with the National Academy of Public Administration, 1979. Pp. xx, 387. $24.00, cloth; $12.00, paper. *JEL 79–1004*

Expository history and analysis of the current purpose, role, and workings of the General Ac-

counting Office (GAO), set up in 1921 to assure accountability for government performance. Part one traces the evolution of the GAO from its English antecedents chronologically to the present. Notes three distinct periods: the crystallization of the GAO to 1945; the turnabout in the GAO leading to emphasis on auditing government corporations and improving federal accounting systems (1945–66); and the period since 1966 when the GAO changed due to governmental developments, particularly the demand by Congress that program evaluation be part of its substantive legislation. Part two concerns the roles, relationships, and problems of the current GAO. Discusses its relationship with Congress and the executive branch as well as internal practices and problems. The author sees as important to the future of the GAO: continuing interaction with other levels of government and society; continuation of separation of powers; credibility through the use of facts and figures to objectively evaluate public policy, exercising its potential for unifying, integrating, and coordinating government programs; and contributions through long-range studies of public problems. For information on particular cases, see the companion volume *Cases in Accountability: The Work of the GAO,* edited by Erasmus H. Kloman [see *JEL no. 79–1000*]. The author is Doherty Professor in the Woodrow Wilson Department of Government and Foreign Affairs, University of Virginia. Selected bibliography; name and subject indices.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *The taxation of net wealth, capital transfers and capital gains of individuals: Report of the OECD Committee on Fiscal Affairs.* Paris: OECD, 1979. Pp. 195. $22.00, paper. *JEL 79–1005*

Report on the systems of taxation of capital held by individuals in 21 member countries of the OECD (excluding Iceland, Greece, and Turkey). The study is limited to three groups of taxes—personal annual net wealth taxes, death and gift taxes, and the taxation of capital gains—and reports on policy issues, structure, exemptions and reliefs, and valuations as of 1 January 1976; reports changes to January 1978. Final chapter discusses administrative issues related to these taxes. Annexes provides country-by-country summaries, cross-references, and a bibliography. No index.

QURESHI, ANWAR IQBAL. *Fiscal system of Islam.* Lahore, Pakistan: Institute of Islamic Culture, 1978. Pp. vi, 248. Rs. 24.00, paper. *JEL 79–1006*

A historical examination of the Islamic taxation system (both in theory and in practice). Primarily concerned with land taxation; the author examines the concept of land rights and the system of land tenure in Early Islam; the institution of *Waqf* (legal terminology meaning "to protect a thing, to prevent it from becoming a property of a third person"); usufructuary land rights; and the Ottoman Land Laws. Written in 1953 (but previously unpublished), attempts to prove that "there is no so-called *Shari' ah* law (Divine Law) in the field of taxation; that the tithe, *kharaj* and poll-tax are secular and not religious taxes; and that the institution of *waqf* has little Qur'anic sanction." No index.

ROUSMANIERE, PETER F., ed. *Local government auditing: A manual for public officials.* New York: Council on Municipal Performance, 1979. Pp. 86. Paper. *JEL 79–1007*

Describes professional auditing of local government's financial activities. Explains the potential and limitations of financial and compliance audits; discusses the "management letter" and the coverage of the field of performance auditing; and provides a guide to setting up an audit, overseeing the process, and using the results. A description of federal revenue sharing requirements and a sample of a complete financial and compliance auditor's report is in appendices. The editor is Vice President, Council on Municipal Performance. Glossary, no index.

TAX FOUNDATION, INC. *Facts and figures on government finance.* 20th Biennial Edition. Washington: Tax Foundation, 1979. Pp. 288. $10.00, paper. *JEL 79–1008*

New edition with tables providing data on the size and scope of taxes, expenditures, and debt of federal, state, and local governments, covering various years from 1901 through 1977. Sources are government departments and private organizations that publish the primary data. Also includes selected economic series on population and employment; national output, income, and prices; and financial data. Glossary; index.

TUCKMAN, HOWARD P. ed. *Financing Florida state government.* Tallahassee: Center for the Study of Education and Tax Policy, Institute for Social Research, Florida State University, 1979. Pp. vi, 408. *JEL 79–1009*

Twenty-one papers (two of which are excerpts from material previously published by the state) analyzing various aspects of Florida's tax and revenue structure. Specific topics include the legal framework of taxation, tax limitation, the legislative process, tax incidence, historical background, and revenue forecasting. Contributors include public and private analysts, university personnel, legislators, and government employees. The editor is Director of the Center for the Study of Educa-

tion and Tax Policy at the Institute for Social Research of Florida State University. No index.

U.S. INTERNAL REVENUE SERVICE. *Preliminary statistics of income—1977: Individual income tax returns.* Washington: U.S.G.P.O., 1979. Paper.
JEL 79-1010

Preliminary report on 1977 individual tax returns, developed from a probability sample of unaudited returns filed during Calendar Year 1978. Includes information on income, exemptions, deductions, credits, and taxes classified according to size of adjusted gross income, marital status, state, and taxable and nontaxable returns. Also contains discussion of the provisions of the Tax Reduction and Simplification Act of 1977 and the Tax Reform Act of 1976. No index.

WOLFSON, DIRK J. *Public finance and development strategy.* Baltimore and London: Johns Hopkins University Press, 1979. Pp. xiv, 264. $16.50.
JEL 79-1011

On the economic framework of fiscal policy. In two parts: part one deals with public spending, while part two discusses resource mobilization; both parts focus on analytical problems and on policy-making for allocation, distribution, and stabilization; also includes two chapters on administration problems and one on the macroeconomic aspects of stability. Designed to improve communication between economists and policy-makers, particularly in developing countries. A textbook, but based in part on the author's Ph.D. dissertation, University of Amsterdam, 1974. Author and general indices.

See also: Book Numbers *JEL 79-0969, 79-1043, 79-1092*

400 International Economics

ADAMS, JOHN. *International economics: A self-teaching introduction to the basic concepts.* Second edition. New York: St. Martin's Press, [1972] 1979. Pp. ix, 197. $5.95, paper. *JEL 79-1012*

Revised and extended edition [see *JEL no. 72-0727* for annotation of first edition]. Changes include the addition of new materials; moving the chapter on the terms of trade to an appendix; and bringing the section on modern trade theory up to date, including discussions of the product-cycle, the role of human skills, and the Linder Theory of demand-based trade. No index.

410 INTERNATIONAL TRADE THEORY

JONES, RONALD W. *International trade: Essays in theory.* Studies in International Economics, vol. 4. Amsterdam; New York and Oxford: North-Holland, 1979. Pp. xi, 330. $53.75. *JEL 79-1013*

Sixteen previously published papers (four of which have been revised and/or abridged) and two new essays on the pure theory of international trade; arranged so that "the volume comes close to being a graduate level 'text.'" In six parts: pure theory of trade, including the Heckscher-Ohlin and Ricardian models; structure in trade models; the transfer problem; international factor mobility; technology and trade theory; and "twoness" in trade theory. Each section is preceded by editorial comments. The author is at the University of Rochester. Index.

See also: Book Number *JEL 79-0962*

420 TRADE RELATIONS; COMMERICAL POLICY; INTERNATIONAL ECONOMIC INTEGRATION

ALIBONI, ROBERTO, ed. *Arab industrialisation and economic integration.* New York: St. Martin's Press, 1979. Pp. 196. $22.50. *JEL 79-1014*

Three independently commissioned studies of inter-Arab cooperation. The first, by Professor Zvi Y. Hershlag, Director of the David Horowitz Institute for the Study of Developing Countries at Tel Aviv University, analyzes prevailing and potential trends, options, and strategies for industrialization in Arab countries. In the second study, Professor Samir Makdisi, Chairman of the Economics Department at the American University in Beirut, focuses on the form and extent of Arab economic cooperation; the effectiveness and limitations of Arab economic interdependence; gains from more effective cooperation; and implications for the world economies. The third paper by Professor Abdelwahab Boudhiba, a sociologist at Tunis University and Director of CERES (*Centre d'Études et de Recherches Économiques et Sociales*) analyzes trends in inter-Arab and Euro-Arab migration. The editor is Professor of International Economics at the University of Naples. Index.

ALLEN, HILARY. *Norway and Europe in the 1970's.* Oslo: Universitetsforlaget; distributed in the U.S. and Canada by Columbia University Press, N.Y., 1979. Pp. 289. $24.00. *JEL 79-1015*

Examines the reasons for Norway's rejection of membership in the European Economic Community in the referendum of September 1972 and the way in which the country's relations with the EEC have developed since; the latter includes the free trade agreement that replaced membership. Contains a summary of Norway's economic and political situation in 1970, an overview of Norway and the EEC between 1945 and 1970, and discussions of politics and the negotiations for member-

ship, the campaign and referendum, the free trade agreement, politics since 1972, the Labour party's European policy, and the relationship of Norway and the EEC on fishing limits. Sees the decision to remain outside the enlarged EEC as at the time a major event in Norway's postwar relations with Europe; notes, however, that the question of Norway's long-term future outside the EEC was quickly overshadowed "by Norway's new position as an oil producer, by the extension of the country's sea limits, and by developments in the northern regions." The author was a Research Fellow, Centre for International Studies, London School of Economics and Political Science, and a Research Associate, the Norwegian Institute of International Affairs. Bibliography; index.

BALASSA, BELA, ET AL. *World Trade: Constraints and opportunities in the 80's.* Atlantic Papers, no. 36. Paris: Atlantic Institute for International Affairs, 1979. Pp. 70. $4.75 paper. *JEL 79-1016*

Four papers, most originally prepared for the Spring 1978 Conference in Geneva organized by the International Chamber of Commerce, the European Management Forum, and the Europa Consortium of Newspapers. In the introductory paper, Carl-Henrik Winqwist asks "Is Protection Unavoidable?" and argues for an open world economy. Martin Wassell discusses the historical and regulatory background to the Multilateral Trade Negotiations; Sidney Golt and William Eberle preview the constraints, opportunities, and issues of the 1980's. In the extended final paper, previously published in the September 1978 issue of the *Journal of International Trade Law,* Bela Balassa evaluates the "new protectionism" and discusses policy options for long-term growth. No index.

GENERAL AGREEMENT ON TARIFFS AND TRADE. *International trade 1977/78.* Geneva: Author, 1978. Pp. vii, 164. $18.00, paper. *JEL 79-1017*

Summarizes trade covering, in the main, 1963-77. In five parts: main trends, trade in commodities, trade of industrial areas, trade of non-industrial areas, and trade of the Eastern trading area. No index.

GRUZINOV, V. P. *The USSR's management of foreign trade.* Translated by MICHAEL C. VALE. Edited with a foreword by EDWARD A. HEWETT. White Plains, N.Y.: Sharpe, [1975] 1979. Pp. vii, 241. Paper. *JEL 79-1018*

Translation of *Upravlenie vneshnei torgovlei: tseli funktsii, metody* (Moscow, 1975) on the bureaucracy of the Soviet Ministry of Foreign Trade. The author finds that efficiency can be increased through the training of managerial personnel and by the use of a computer-based automatic control system to be directed by top-level leadership. Published simultaneously as Vol. 14, nos. 3 and 4 of *Soviet and Eastern European Foreign Trade.* The author is a member of the Faculty of the All-Union Academy of Foreign Trade in the U.S.S.R. Ministry of Foreign Trade. Glossary; no index.

HILLMAN, JIMMYE S. AND SCHMITZ, ANDREW, eds. *International trade and agriculture: Theory and policy.* Westview Special Studies in International Economics and Business. Boulder, Colo.: Westview Press, 1979. Pp. xviii, 333. $23.50. *JEL 79-1019*

Thirteen papers first presented at the Symposium on International Trade and Agriculture held at Tucson, Arizona, in April 1977. Focuses on major topics of trade and commerce policy as they relate to agriculture. In four parts: (1) general theory and policy; (2) gains from trade: theory reexamined; (3) analyses of agricultural trade problems; and (4) research and research needs. An introduction by the editor Jimmye S. Hillman reviews the issues discussed. Bibliography; index.

INSTITUTE FOR LATIN-AMERICAN INTEGRATION (INTAL), INTER-AMERICAN DEVELOPMENT BANK. *The Latin-American integration process in 1977.* Buenos Aires: Author, 1978. Pp. 341. Paper. *JEL 79-1020*

A three-part report. Part one analyzes conditions in the international and regional economies in 1977, and evaluates the process and progress of integration and cooperation in Latin America under different schemes and arrangements. Part two describes and analyzes the activities of the Latin-American Free Trade Association (LAFTA), and Andean Group, the Central-American Common Market (CACM), the Caribbean Community (CARICOM), and Multinational programs and other forms of cooperation (*e.g.*, the River Plate Basin, the Latin-American Economy and financial cooperation). Part three contains a chronology of the main integration and cooperation events in 1977. Concludes that the "achievements of the regional integration and cooperation process in 1977 showed a satisfactory balance." No index.

LOSMAN, DONALD L. *International economic sanctions: The cases of Cuba, Israel, and Rhodesia.* Albuquerque: University of New Mexico Press, 1979. Pp. xi, 156. $12.95. *JEL 79-1021*

Examines three international boycotts implemented as acts of foreign policy and focuses on their operations, effectiveness, usefulness as a political tool, and costs to both the participating and the targeted nations. Specific embargoes investi-

gated are the United States boycott of Cuba, begun in 1960; the Arab boycott of Israel, initiated before statehood in 1944; and the economic sanctions against Rhodesia, begun by Great Britain in 1965 and joined later by the United Nations. The cases studied reveal costs differing in kind and degree, but political success did not result from any of the embargoes. Revised doctoral dissertation. The author is Visiting Professor of Economics at the U.S. Army War College. Index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *The impact of the newly industrialising countries on production and trade in manufactures: Report by the Secretary-General.* Paris: OECD, 1979. Pp. 96. $12.00, paper. *JEL 79–1022*

Focuses on shifts in the pattern of output and trade in manufactures between the OECD countries and the group of "Newly Industrializing Countries" (NIC's), which includes Greece, Portugal, Spain, Yugoslavia, Brazil, Mexico, Hong Kong, Korea, Singapore, and Taiwan. Examines the factors underlying the emergence of the NIC's, the trade policies and adjustment problems of the Advanced Industrial Countries (AIC's), and the outward-looking growth policies of the NIC's. Argues that "excessive concern in advanced industrial countries about competition from the developing countries in general and NIC's in particular often reflects a failure to recognise the strength of the basic economic forces at work to ensure mutually beneficial relationships between trading partners" and warns against a shift to defensive policies by OECD countries. Lengthy annex tables and a survey of recent research. No index.

PAGLIAZZI, PAOLO, ET AL. *Companies exports and the South.* Questions for Debate: Economic and Social Issues of Our Time. Isveimer Bulletin no. 5–6. Naples: Institute for the Economic Development of Southern Italy, 1978. Pp. 214. *JEL 79–1023*

Four papers, discussions, replies, and introductory and concluding remarks on problems and policies related to increasing exports of companies in the Italian South. The focus is on insurance of exports, foreign exchange, and financial aspects of law number 227 for financing development in the Third World. Meeting participants include bankers, economic advisers, entrepreneurs, and public officials. No index.

PRODROMIDIS, K. P. *Foreign trade of Greece: A quantitative analysis at a sectoral level.* Special Studies Series A., no. 6. Athens: Center of Planning and Economic Research, 1976. Pp. 369. Paper. *JEL 79–1024*

Examines the import demand of Greek industries and the export demand for Greek products on a sectoral (and sub-sectoral for manufacturing industries) basis with the purpose of determining the impact of industrial development on the balance of payments. Estimates linear and double logarithmic import and export equations employing annual data from 1961–69 using ordinary least squares. Finds that income and relative price elasticities of imports and exports provide "quite acceptable" estimates of the true unknown parameters and forecasted values of 1970 imports and exports are encouragingly close to actual values. Concludes that the majority of the nine commodity sectors encompassed by the study exerted a negative impact on the balance of trade; exceptions were food, beverages, and tobacco and basic metal products. The author is senior research fellow at the Center of Planning and Economic Research, Athens. Bibliography; no index.

ROTHSTEIN, ROBERT L. *Global bargaining: UNCTAD and the quest for a new international economic order.* Princeton, N.J.: Princeton University Press, 1979. Pp. xiii, 286. $18.50, cloth; $4.95, paper. *JEL 79–1025*

Analysis of the UNCTAD attempts to restructure international commodity policy from mid-1974 to the Nairobi Conference in May 1976. Establishes the background of the commodity debates and discusses the technical aspects of commodity bargaining. The second section focuses on the factors inhibiting the negotiation of a viable North–South settlement on commodity policy, particularly the structural and institutional issues. Considers several reform proposals for negotiating in the North–South arena. Argues that: (1) there is no way to negotiate a stable and efficient pact that protects general welfare on the one hand and redistributes resources to a particular group of states on the other; (2) an efficient agreement that uses aid to transfer the resources for compensation purposes is not the only system-wide bargain that could stimulate North–South relations; and (3) LDC's must lower their expectations of the fruits of an agreement while they aim at improving domestic performance and cushioning against external shocks. Concludes that the most beneficial compromise requires that the bargaining context be broadened; this dictates, however, that the two sides "bargain about how to bargain" to establish the ways to deal with specific issues. The author is currently on a research grant from the Department of State. Index.

SCHULMEISTER, STEPHAN. *Tourism and the business cycle: Econometric models for the purpose of anal-*

ysis and forecasting of short-term changes in the demand for tourism. Translated by KURT BAYER. Vienna: Austrian Institute for Economic Research, 1979. Pp. 141. Paper. *JEL 79-1026*

Condensed English-language version of two studies by the Austrian Institute for Economic Research on short-term fluctuations in the demand for tourism, 1960-73, and on the development of tourism since the 1973 energy crisis. Presents and discusses econometric findings concerning Austria's receipts and expenditures on domestic and international tourism before the energy crisis and evaluates the performance of the pre-energy crisis model to explain developments since 1973. Includes model forecasts of tourism for 1978 and 1979, a theoretical treatment of the economics of tourism, and a discussion of the specification of the econometric model of short-term changes in the demand for tourism. No index.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT. *Handbook of international trade and development statistics, 1979.* New York: United Nations, 1979. Pp. xxi, 782. $44.00, paper. *JEL 79-1027*

Compilation of data drawn from existing international and national sources related to world trade and development. Tables, covering various time periods since 1950, with countries and territories classified: according to economic type and geographic area, developed market economies, socialist countries of Asia, and developing countries and territories. In eight parts: value of world trade by regions and countries 1950-78; volume, unit value, and terms of trade index numbers by regions, commodity prices, and consumer price indices, networks of world trade; exports and imports for individual countries by commodity structure, major exports of developing countries, and LDC imports of manufactured goods and imports from LDC's of semi-manufactured goods; balance of payments, financial resource flows, and external indebtedness of LDC's; basic indicators of development; special studies; and shipping statistics. Tables only. Bilingual: English and French. No index.

See also: Book Numbers *JEL 79-932, 79-0935, 79-1077, 79-1087*

430 BALANCE OF PAYMENTS: INTERNATIONAL FINANCE

ALIBER, ROBERT Z. *The international money game.* Third and expanded edition. New York: Basic Books, [1973, 1976] 1979. Pp. xi, 331. $12.95, cloth; $6.25, paper. *JEL 79-1028*

A popular review of important issues in and basic workings of the international monetary system "presented in a straightforward manner with minimal use of specialized terms." This edition has been expanded to take into account the changes in the international scene in the 1970's, including floating exchange rates, which "have proven to be far less of a panacea than . . . anticipated"; the recession of 1974; and the devaluation of the dollar to unexpectedly low levels, which seem to be tending in the direction of a new currency bloc. [See *JEL no. 73-1070* for annotation of original edition.] The author is Professor of International Finance and Economics, University of Chicago. Index.

FEDERAL RESERVE BANK OF BOSTON. *Managed exchange-rate flexibility: The recent experience: Proceedings of a conference held at Melvin Village, New Hampshire, October, 1978.* The Federal Reserve Bank of Boston Conference Series, no. 20. Boston: Federal Reserve Bank of Boston, 1979. Pp. vii, 185. Paper. *JEL 79-1029*

Six previously unpublished papers and comments assess the seven-year experience of the floating rate regime. Specific topics include: (1) recent evidence on the synchronization of cyclical movements and the implications for the transmission of fluctuations in real economic activity among countries, (2) the international transmission of inflation, (3) recent literature on both the theoretical and empirical arguments pertaining to efficiency in the foreign exchange market, (4) monetary policy and problems of exchange-rate flexibility, (5) the empirical results of simulations of monetary policy actions run with the Multi-Country Model developed at the Federal Reserve Board, and (6) choosing among the major alternative approaches to the international surveillance of national exchange-rate policies. No index.

KATZ, SAMUEL I., ed. *U.S.-European monetary relations.* A Conference Sponsored by the American Enterprise Institute for Public Policy Research and Georgetown University. AEI Symposia, no. 79B. Washington, D.C.: AEI, 1979. Pp. 282. $10.75, cloth; $5.75, paper. *JEL 79-1030*

Seven previously unpublished papers and related comments on the possible next steps in U.S.-European monetary relations that might halt global and regional economic fragmentation, originally presented at a conference sponsored by the AEI and Georgetown University and held in Washington, D.C., on 17 and 18 March 1977. Alexandre Lamfalussy examines the problems of monetary integration; Bela Balassa looks at the problem areas and policy options for European integration;

Thomas D. Willett considers the evolving exchange-rate mechanism; and four authors, Niels Thygesen, Roland Vaubel, Giorgio Basevi, and C. J. Oort discuss the specific next steps to be taken in European integration, including the creation of Europe-wide currency and coordination of exchange-rate management. The editor is Professor of Economics at Georgetown University. No index.

LINDBECK, ASSAR, ed. *Inflation and employment in open economies: Essays by members of the Institute for International Economic Studies.* Studies in International Economics, Vol. 5. Amsterdam; Oxford and New York. North-Holland, 1979. Pp. viii, 338. $58.50. *JEL 79-1031*

Twelve previously unpublished essays analyzing macroeconomic theory and stabilization policies in highly open economies. Papers tend to emphasize: the relationship between short-term and long-term effects; the joint characteristics of stabilization policy targets (employment, prices, balance of payments); wage formation, both in explaining transmission of international disturbances and changes in employment and unemployment, and government economic policy as to some extent an endogenous response. Papers organized under three headings: regime with controlled exchange rates; regime with floating exchange rates; and empirical studies. Author index.

MCKINNON, RONALD I. *Money in international exchange: The convertible currency system.* New York and Oxford: Oxford University Press, 1979. Pp. xii, 294. $12.50, cloth; $6.95, paper. *JEL 79-1032*

Textbook focusing on the microeconomic and monetary aspects of international exchange. Describes how the use of national currencies monetizes international trade; analyzes common financial practices of merchants and manufacturers, commercial banks, and central banks; evaluates public policies that support or obstruct the international "money machine"; and discusses America's role in stabilizing the world's monetary system. Several chapters conclude with technical notes. An appendix analyzes proposals for international monetary reform. The author is Professor of Economics at Stanford University. Name index.

MODIGLIANI, FRANCO AND PADOA-SCHIOPPA, TOMMASO. *The management of an open economy with "100% Plus" wage indexation.* Essays in International Finance, no. 130. Princeton, N.J.: Princeton University, Department of Economics, International Finance Section, 1978. Pp. 43. $1.50, paper. *JEL 79-1033*

Analyzes the relation between inflation, demand, and external and domestic deficit in an open economy characterized by nationwide bargaining and a 100 percent or more indexation of wages; an example of such a "100% plus" indexation is Italy. Uses an aggregation model to study these macro variables under various scenarios, assuming throughout that the goals of the economic policy makers are high economic activity with low unemployment and price stability at a level where external deficit can be financed. Finds that monetary and fiscal policy in many cases cannot produce the necessary changes in employment, price, and/or the external balance in an open economy and concludes that the most reasonable solutions are: (1) redefine the targets of policy, *i.e.*, levels of unemployment or of price stability; and (2) reduce the trade-off between output and terms of trade by reducing unit labor cost, which is done by reducing real wages (politically impractical) or increasing productivity. F. Modigliani is Institute Professor and Professor of Economics and Finance at the Massachusetts Institute of Technology, and T. Padoa-Schioppa is an economist with the Research Department of the *Banca d'Italia*, Rome. No index.

PONIACHEK, HARVEY A. *Monetary independence under flexible exchange rates.* Lexington, Mass. and Toronto: Heath, Lexington Books, 1979. Pp. viii, 215. *JEL 79-1034*

Examines the degree of monetary independence that can exist in an open economy under a system with flexible exchange rates and subject to short-term international capital flows. Investigates the case of West Germany, developing and estimating an econometric model that allows for both fixed and flexible exchange rates. Discusses the inflation and terms-of-trade effects of flexible rates and analyzes the international system of widespread floating of currencies. Shows that flexible exchange rates eliminate the need for capital controls and introduce more freedom into the international economy. Maintains that the traditional view—that the real adjustment is through flexible exchange rates—is in need of qualification; the ultimate real adjustment is through the induced relative price changes and shifts in production and consumption. Finds empirically that: (1) independence is "more feasible" under a flexible rather than fixed system; (2) there is a trade-off relation between monetary policy, the exchange rate, and the balance of payments; (3) monetary policy—interest rate and money supply—has a small effect on exchange rates; (4) in West Germany, flexible rates have allowed short-term capital flows to stabilize; and (5) redefining the broader concept of money supply, M_2, to include Eurocurrency deposits in domestic banks and resident deposits in banks dominated by Euro-

currency deposits, is appropriate in an open economy. The author is an economist with Bank of America in New York. Bibliography; index.

RODRIGUEZ, RITA M. AND CARTER, E. EUGENE. *International financial management.* Second edition. Englewood Cliffs, N.J.: Prentice-Hall, [1976] 1979. Pp. xv, 686. $18.95. *JEL 79–1035*

Text designed for upper-level undergraduates or MBA/MS students. In four parts: balance of payments and the external position of countries; problems for firms in dealing in a diversity of currencies; international capital budgeting; and the Euro-dollar markets and international capital markets. This edition includes new material on international taxation, monetarism and the balance of payments, foreign exchange exposure, the legal and historical analyses of foreign direct investment, and the Euro-dollar market. Institutional data have been brought up to date. Assumes a knowledge of introductory economics and finance. Chapters include questions, exercises, and cases. Appendices include present value tables along with information on international taxation. The authors are at the University of Illinois at Chicago Circle. Glossary; index.

WHITMAN, MARINA V. N. *Reflections of interdependence: Issues for economic theory and U.S. policy.* Pittsburgh: University of Pittsburgh Press, 1979. Pp. xxi, 316. *JEL 79–1036*

Nine articles written and published during the decade 1967–77. The first group of four articles analyzes issues of economic openness, as an attribute of a single economy, not in terms of the characteristics of interdependence and integration among groups of countries and of "global monetarism." Two articles examine the interplay between theoretical advances from a closed-economy to an open-economy perspective and recent experiences in international economic interdependence. The final three articles examine the reasons for "the declining hegemony of the United States, the disintegration of the postwar institutional framework for the conduct of international economic relations, and the growing tension between interdependence and autonomy that has tended to politicize international economic issues"; discuss U.S. policy; and consider the international economic system of the future. The author has been Distinguished Public Service Professor of Economics at the University of Pittsburgh; she is now Chief Economist and Vice President of General Motors. Index.

WIHLBORG, CLAS. *Currency risks in international financial markets.* Princeton Studies in International Finance, no. 44. Princeton, N.J.: Princeton University, Department of Economics, International Finance Section, 1978. Pp. v, 58. $2.50, paper. *JEL 79–1037*

Study of investor response to changes in the risks of international borrowing under various exchange-rate regimes. Describes the risks that can arise in holding foreign currencies, analyzes risks under assumptions about exchange-rate and price relationships, and evaluates the importance of risks under flexible, adjustable-peg, and fixed-rate regimes, using several recent models. Employs mean-variance analysis to examine the effects of risks on investor choice and comments on recent international structural developments in finance related to higher risks. Finds that the recent increases in both inflation risk and exchange risk are not a direct consequence of flexible exchange rates but rather have their source in the unpredictability of inflation rates, which result from the unpredictability of central-bank behavior. Based on chapters 2 and 3 of the author's dissertation, Princeton University, 1976. The author is an Assistant Professor of Finance and International Business at the Graduate School of Business Administration, New York University. No index.

See also: Book Numbers *JEL 79–0965, 79–0969, 79–0974*

440 INTERNATIONAL INVESTMENT AND FOREIGN AID

COBBE, JAMES H. *Governments and mining companies in developing countries.* Westview Special Studies in Social, Political, and Economic Development. Boulder, Colo.: Westview Press, 1979. Pp. xii, 332. $20.00. *JEL 79–1038*

Explores the nature of relationships between the governments of developing countries and foreign-owned firms in extractive industries, particularly mining companies. Employs the methodology of "traditional, pre-econometric 'applied economics'," and draws on the fields of law, political science, engineering, and business administration. Discusses the salient characteristics of market organization in the extractive industries, including the impact of the exhaustible nature of the resources on market structure, and compares the conclusions against conventional ideas of firm behavior. Examines the bases of LDC governments' objectives in dealing with foreign firms and considers formal and heuristic bargaining models of their relationship with foreign firms. Includes two case studies treating minerals in Botswana and copper in Zambia. Concludes that the relationships involved can be adequately explained by concepts and propositions of traditional social science. Finds theoretical models of scheduling extraction rates over time for minerals inadequate for answering

legitimate questions raised by LDC governments. Revision of a Ph.D. dissertation submitted to the Department of Economics, Yale University, 1977. The author is Assistant Professor of Economics at Florida State University. Bibliography; index.

DEMIR, SOLIMAN. *Arab development funds in the Middle East.* Pergamon Policy Studies, no. 19. New York; Oxford; Toronto and Paris: Pergamon Press for UNITAR, 1979. Pp. xvii, 131. $15.00. *JEL 79–1039*

Describes the organizational structure and development policies of three funds designed to promote economic development and cooperation within the Arab region—the Kuwait Fund, the Abdu Dhabi Fund, and the Arab Fund. Examines their achievements and assesses the interaction and program cooperation among the three funds and with other international organizations within the United Nations. Based on official documents, policy statements and papers, and interviews with management and technical staffs of the funds. Appendices provide the funds' charters and laws. The author is Research Associate at the United Nations Institute for Training and Research (UNITAR). Selected bibliography; index.

HOOD, NEIL AND YOUNG, STEPHEN. *The economics of multinational enterprise.* London and New York: Longman, 1979. Pp. xv, 412. £7.95, paper. *JEL 79–1040*

Textbook. Presents both economic theory and available empirical evidence to promote a greater understanding of the determinants of foreign direct investment, the operation of the multinational enterprise (MNE), international trade and the MNE, the relationship between foreign direct investment and economic development, the issue of control of the MNE from the standpoint of both home and host nations, and radical views on the MNE. The introduction outlines the scope and direction of the MNE, while the conclusion evaluates its future. Each chapter begins with a summary and includes selections for further reading and questions for discussion. The authors are both Senior Lecturers in the Department of Economics and Management, Paisley College of Technology, Scotland. Bibliography; index.

LOMBARD, FRANCOIS J. *The foreign investment screening process in LDCs: The case of Colombia, 1967–1975.* Foreword by COVEY T. OLIVER. Westview Replica Edition. Boulder, Colo.: Westview Press, 1979. Pp. xvii, 171. $17.50. *JEL 79–1041*

Examines the Colombian experience in regulating and controlling foreign investments. Discusses the historical, political, economic, and international setting for an adaptation of an explanatory model, which is used to analyze how the host country's regulating system works to screen foreign investment proposals. Based on some 200 interviews with government officials, lawyers, and company executives in Colombia for the period 1967–75. Concludes, in part, that "the increasingly complex screening process and the instability of the rules have deterred U.S. companies from further investment in [Colombia]" and that the major objective in applying entry controls was to protect given sectors and to channel external resources into high priority uses. Notes also that there is a tendency over time toward a more flexible entry control system. The author is an investment officer with the International Finance Corporation. Bibliography; no index.

MANTEL, IDA MAY. *Sources and uses of funds of majority-owned foreign affiliates of U.S. companies, 1973–76.* U.S. Department of Commerce, Bureau of Economic Analysis Staff Paper, 79-033. Springfield, Va.: National Technical Information Service, 1979. Pp. 57. $5.25, paper; $3.00, microfilm. *JEL 79–1042*

Analyzes changes in assets, liabilities, and capital accounts during the period 1973–76 for a sample of majority-owned foreign affiliates of U.S. companies in petroleum, manufacturing, and other nonfinancial industries. Consists largely of the presentation of data on sources and uses of funds for 1966–76 and revised data for 1966–72, initially published in the July 1975 *Survey of Current Business.* The author is an economist with the International Investment Division. No index.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. *Transfer pricing and multi-national enterprises: Report of the OECD Committee on Fiscal Affairs.* Paris: OECD, 1979. Pp. 100. $9.00, paper. *JEL 79–1043*

Discussion of the determination of acceptable prices (arm's length prices) for the purposes of establishing taxable profits when transfers of goods, services, or technology occur within multinational enterprises situated in different countries. Reviews the problems of setting the transfer price as well as difficulties facing the tax authorities; discusses the principle and main methods of ascertaining the arm's length price for each type of transfer, including the rate of interest on intragroup loans; and concludes with a recommendation of the Council inviting the tax administrations of mem-

ber countries to use the methods of assessment proposed in this report. No index.

SEKIGUCHI, SUEO. *Japanese direct foreign investment.* An Atlantic Institute Research Volume. Montclair, N.J.: Allanheld, Osmun, 1979. Pp. xvii, 153. $20.00. *JEL 79–1044*

Examines the evolution of Japanese direct investment overseas in three areas: investment in primary commodities in the light of efforts to stabilize their markets, investment in manufacturing in LDC's and the economic impact on the host country, and investment in advanced industrial countries, particularly the social impact of Japanese subsidiaries in Western Europe. Investigates the evolution and content of Japanese investment and notes that Japanese direct investment is characterized by general trading companies, which market and distribute a large number of individual products for numerous small firms, rather than the typical multinationalization by large, technologically superior firms. Finds that: (1) the government has aided resource development; (2) investment in manufacturing in LDC's has primarily been a large number of small scale projects; and (3) investment in advanced countries has been relatively limited. Concludes that Japan's direct investment will continue to grow, but at a decreasing rate; this trend could be modified by expansion of imports through stimulated consumption and investment of social capital in environmental projects. Includes tables of trade data, primarily for the 1970's. The author is Senior Staff Economist at the Japan Economic Research Center. Index.

UNDERWOOD, TREVOR, ed. *Foreign exchange yearbook: 1979 edition: A listing of daily foreign exchange and Euro-currency deposit rates for leading world currencies throughout 1978 with a commentary on international developments.* Cambridge: Woodhead-Faulkner; New York: Wiley, Halsted Press; 1979. Pp. 5, 264. $27.50, paper. *JEL 79–1045*

Part one includes nine short commentaries on foreign exchange problems for business, including: central bank intervention, structural changes needed in the London market, the role of the broker, exposure management, accounting standards for exchange in the United Kingdom and the United States, tax implications, and forecasting exchange rates. Part two, three-fourths of the book, contains tables on 1978 daily foreign exchange (London closing middle) against the dollar and the pound sterling and 1976 monthly averages of foreign exchange rates against the dollar. The editor is Managing Director, Econintel Information Services, Ltd. No index.

VAN ZANDT, HOWARD F., ed. *International business prospects 1977–1999.* Foreword by HAROLD GENEEN. The ITT Key Issues Lecture Series. Indianapolis: Bobbs-Merrill Educational, 1978. Pp. xviii, 189. $9.95, cloth; $4.95, paper. *JEL 79–1046*

Seven previously unpublished papers on the future of international business, originally presented as ITT lectures at the International Management Studies Department of the University of Texas in late 1976 and spring 1977. Edward T. Hall discusses the importance of improving the handling of human relations in overseas contexts; Sir James Lindsay presents an overview of investment in Europe, Africa, and the Middle East; Anthony S. Rojko considers food balances to the year 2000; John F. Shaw presents an overview of East Asia and Oceania; and James Milton Voss explores energy needs up to 1999. Also includes papers on Latin American business (William B. Wolf) and international tourism and travel (David L. Edgell). The editor is Professor of International Management Studies at the University of Texas at Dallas. No index.

WILKINS, MIRA. *Foreign enterprise in Florida: The impact of non-U.S. direct investment.* A Florida International University Book. Miami: University Presses of Florida, 1979. Pp. viii, 199. $15.00. *JEL 79–1047*

Discusses the extent, nature, and regional location of non-U.S. investment in Florida as well as the nationalities of investors and examines the trends and the impact of foreign direct investment in land and real estate; banking; manufacturing; and the phosphate, oil, and service industries. Assesses Florida's commitment to the policy of attracting non-U.S. investment that will provide jobs and stimulate economic growth. Concludes that "the benefits of these investments in terms of added capital, employment, new industries and services, new technology, new tax revenues and economic growth far outweigh the costs," and the author, Professor of Economics at Florida International University, Miami, encourages their promotion. Appendices provide selected lists of non-U.S. businesses in Florida, partnerships, and manufacturing facilities. Index.

See also: Book Numbers *JEL 79–0992, 79–1077*

500 Administration; Business Finance; Marketing; Accounting

510 ADMINISTRATION

ASIAN PRODUCTIVITY ORGANIZATION. *Development of management consultancy in APO member*

countries. Tokyo: Author; distributed by Unipub, New York, 1978. Pp. 185. $8.00, paper. *JEL 79-1048*

Report on a survey of the problems and needs of management consulting for small and medium scale industries, emphasizing the activities of National Productivity Organizations (NPO's). Part two reports on effectiveness of past consulting with some suggestions for improvement, and part three contains three papers from a symposium sponsored by the APO on this topic, including two by Akira Takanaka on problems of consultancy development in LDC's and the scope and contents of consultancy services, and one by Toru Sase on promotional activities of NPO's. The last part comprises 12 APO country reports, also from the symposium. Recommends that the APO "organise advanced training courses with emphasis on consulting skills, problem isolation and solving while NPOs should provide basic training on management development and basic skill." No index.

CHURCHMAN, C. WEST. *The systems approach and its enemies.* New York: Basic Books, 1979. Pp. xii, 221. $12.00. *JEL 79-1049*

Explores and criticizes the past performance and problem design of the systems approach to planning and management. Notes that simple, direct attempts to "solve" problems in systems designed earlier often lead to unintended results. Identifies four "enemies" of the systems approach: politics, morality, religion, and aesthetics. Suggests that these "enemies," although not necessarily comprehensive, holistic, or even "rational" (in the sense used by model builders), provide important ways of learning about the systems approach and of understanding human experience by enabling "the rational mind to step outside itself and to observe itself (from the vantage point of the enemies)." The author is Professor of Business Administration at the University of California, Berkeley. Index.

EIDE, ERLING. *Engineering production and cost functions for tankers.* Amsterdam; Oxford and New York: Elsevier Scientific, 1979. Pp. xii, 284. $75.50. *JEL 79-1050*

Develops a micro engineering production function and corresponding cost function for the transportation of oil by tankers. Systematically examines the relationship between optimal (cost minimizing) ship characteristics and the prices of fuel, real capital, and other shipping inputs. Combines engineering and economic principles to construct a mathematical model of ship design with which to generate streams of "pseudo-data" for various cost-minimizing ships. The "pseudo-data," in turn, are employed to estimate Cobb-Douglas production functions and homothetic production functions with a Cobb-Douglas core. Cost functions are constructed as functions of output and relative input prices. Finds diesel machinery preferable to turbine machinery for relatively small ships and high fuel costs and finds that only minor corrections are required to compensate for restricted ship draft due to port depth. The author is an Assistant Professor at the Institute of Economics, University of Oslo. Bibliography; author and subject indices.

HAILSTONES, THOMAS J. AND ROTHWELL, JOHN. *Introduction to managerial economics.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. viii, 512. $16.95. *JEL 79-1051*

Text devoted to the review of traditional analysis of managerial economics and the application of this analysis to the solution of problems of the firm. Covers profit, price determination, demand analysis, and business fluctuations as well as forecasting, cost of production, pricing, and antitrust. Also considers capital expenditure analysis, cost of capital, human resources, and the changing economic environment. Requires "a modest knowledge of economic principles and a modicum of mathematics." Chapters supplemented with questions for review and a list of additional sources. The authors are both at Xavier University, Cincinnati. Index.

KAY, NEIL M. *The innovating firm: A behavioral theory of corporate R&D.* Foreword by CHRISTOPHER FREEMAN. New York: St. Martin's Press, 1979. Pp. xv, 266. $24.95. *JEL 79-1052*

Examines the process of allocating resources to R&D in the modern corporation using a general systems framework. Contends the neoclassical theory of the firm and related project-based statistic approaches have limited applicability in this area. Develops the concept of a firm as a hierarchically organized open system in which R&D operates as a specialized function. Applies this framework to analysis of: dissimilarities in budgeting conventions for corporations in Western Europe and the United States; R&D determinants in U.S. industry; and intraindustry variation in allocations to technological change activity. Results indicate that federal funds augment rather than replace company funds for R&D and that technological opportunity and propensity to undertake basic research might be negatively related. Based on the author's Ph.D. dissertation, University of Stirling, Scotland, 1976. The author is Lecturer in Industrial Economics, Heriot-Watt University, Edinburgh. Index.

KINGSTON, IRENE AND BENJAMIN, WILLIAM A., eds. *Directory of European business information.*

Washington and Paris: Center for Business Information, 1979. Pp. x, 590. \$75.00. *JEL 79-1053*

Directory of information on general business and specific industries in Western and Eastern Europe. Virtually all entries are annotated and descriptive, giving price information where possible. In three parts: basic information sources on management, European business books, research services, on-line data bases, and statistical information; subject information sources and services in eleven different areas, including: accounting, finance, economics, patent law, personnel management, and corporate information; and individual European country information sources. I. Kingston is currently lecturing at Queen's University (Belfast) in the Department of Library and Information Studies, and W. A. Benjamin is President, Center for Business Information, Paris, and Chairman, Business Research Corporation, Washington, D.C. Subject/title index.

MANGHAM, IAIN. *The politics of organizational change.* Contributions in Economics and Economic History Series, no. 26. London: Associated Business Press; Westport, Conn.: Greenwood Press, 1979. Pp. xii, 221. \$23.95. *JEL 79-1054*

Examines organizational change, viewing it as political behavior. Concerned with the "series of stratagems, manoeuvres and bargains among certain key managers and union officials," which can characterize decision-making; analyzes the building of coalitions and alliances, paying particular attention to issues of power and personal skill. Believing "that at the hub of all social life is the process of face-to-face interaction," argues "that all such encounters are marked, *in the final analysis,* by the pursuit of personal goals." Offers general understanding of decision-making behavior in businesses and other organizations rather than a guide to corporate climbing. The author is Professor of Management Development and Director of the Centre for the Study of Organizational Change, University of Bath. Index.

MORIGUTI, SIGEITI, ed. *Computer application in management: The Asian scene.* Tokyo: Asian Productivity Organization; distributed by Unipub, New York, 1978. Pp. 208. \$9.00, paper. *JEL 79-1055*

Eighteen previously unpublished papers by computer experts and management officials of Asian Productivity Organization (APO) member countries on the application of computer technology to management decision-making. Originally presented at a symposium sponsored by the APO, held in Tokyo in May 1977. In four parts: overview of computerization in Asia; dimensions of computer application in management, business, and public administration; computer applications in the twelve APO countries; and recommendations for national policies on the incorporation of computer technology. The editor is a professor in the Department of Information Mathematics, University of Electro-Communications, Tokyo. No index.

SEO, K. K. AND WINGER, BERNARD J. *Managerial economics: Text, problems, and short cases.* Fifth edition. The Irwin Series in Economics. Homewood, Ill.: Irwin; Georgetown, Ont.: Irwin-Dorsey, [1959 . . . 1975] 1979. Pp. xiii, 453. \$16.95. *JEL 79-1056*

Text for an intermediate-level undergraduate or first-year graduate student course in managerial economics. Topics covered include: decision analysis, forecasting, demand analysis, production cost analysis, profit measurement and planning, pricing, government and business, and capital budgeting. This edition has been brought up to date, and analytical material receives more emphasis than previously. Contains new material on risk analysis, flexible pricing and differential pricing, and optimization techniques. Includes many end-of-the-chapter cases and problems. K. K. Seo is Professor of Business Economics and Quantitative Methods, University of Hawaii, Honolulu; B. J. Winger is Associate Professor of Economics and Finance, University of Dayton. Index.

WINGER, BERNARD J. *Cases in managerial economics.* Columbus, Ohio: Grid, 1979. Pp. 174, paper. *JEL 79-1057*

Designed for MBA level and advanced intermediate courses in managerial economics, consists of 28 cases devised so they "impart a semblance of real-world decision making, yet within a structure of specific questions asked of the students." In six parts: making economic decisions; demand; theory, forecasting, and analysis; production theory and cost analysis; capital budgeting; pricing; and government and business. Present value tables in appendices. The author is a member of the Department of Economics and Finance, University of Dayton. No index.

See also: Book Numbers *JEL 79-0889, 79-0979, 79-1066, 79-1110*

520 BUSINESS FINANCE AND INVESTMENT

CLARK, JOHN J.; HINDELANG, THOMAS J. AND PRITCHARD, ROBERT E. *Capital budgeting: Planning and control of capital expenditures.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. ix, 468. \$22.00. *JEL 79-1058*

Text for senior-level undergraduate or graduate-level course in capital budgeting. In four parts: fundamentals of capital budgeting; risk analysis in long-term asset management; mathematical programming and simulation; capital budgeting as applied to multinationals, leases, mergers, and acquisitions. Assumes knowledge of algebra and basic statistics. Chapters include questions and problems; selected answers provided. Necessary statistical tables in appendices. J. J. Clark and T. J. Hindelang are at Drexel University and R. E. Pritchard is at Glassboro State College. Bibliography; author and subject indices.

HAMPTON, JOHN J. *Financial decision making: Concepts, problems, and cases.* Second edition. Reston, Va.: Prentice-Hall, Reston, [1976] 1979. Pp. xii, 659. $14.95. *JEL 79-1059*

Introductory text. Stresses the analytical aspects of problem solving. In seven parts: nature of finance; securities and financial analysis; management of working capital; financial planning; capital investment policies; funds management; and evaluating financial alternatives. This edition has been brought up to date and revised, and includes new material on the capital asset approach to risk and return, the Capital Asset Pricing Model, and short- and intermediate-term financing. Chapters are supplemented by a list of key terms, questions and problems, and suggested readings. The author is at Seton Hall University. Glossary; index.

LAVELY, JOE AND RUCKMAN, PAUL E. *Simultaneous compounding and discounting: Tables and uses.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. ix, 724. $59.95. *JEL 79-1060*

Primarily tables of value-relatives (ratios that relate values at different points in time) designed for use by financial counselors, life insurance agents, attorneys, and economists. Consists of four types of data: (1) compound-value-relatives, (2) discount-value-relatives, (3) a combination of the first two, and (4) accumulations of the first three types. The accompanying text discusses the concept of a value-relative and gives examples of pertinent problem solving, such as "how much life insurance?" or the economic value of housework. The authors are Professor of Finance and Assistant Professor at Indiana University–Purdue University, Fort Wayne. No index.

LOWE, PAUL. *Investment for production: Managing the plant investment process.* New York and Toronto: Wiley, Halsted Press; London: Associated Business Press, 1979. Pp. x, 261. $27.50. *JEL 79-1061*

Description of the different aspects of the plant investment process with particular attention given to the practical problems. Covers project preparation, evaluation, and risk analysis; plant replacement and leasing; life-cycle costing; and project presentation, authorization, implementation, and outcome evaluation. Intended primarily for individuals involved with these decisions in particular firms; develops case examples and provides check lists to allow those decision-makers to look at their own firms in a more structured manner. Contains descriptive and analytical chapters, with the latter using simple mathematical techniques. Two brief case studies are presented as an appendix. The author is a senior lecturer, Department of Production Technology, Brunel University, Uxbridge, England. Index.

MARTIN, JOHN D., ET AL. *Basic financial management.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xv, 667. $18.95. *JEL 79-1062*

Text for a one-semester introductory course in financial management, emphasizing "identification and solution of the financial problems confronting the business enterprise." In seven parts: scope of financial management; basic tools of analysis, planning, and control; working-capital management; management of long-term assets; cost of capital and financial structure; long-term financing; and external growth and contraction. Chapters include a summary, study questions, study problems, and suggested readings. Study guide and case books available. Several financial tables in appendices. Co-authors are: John D. Martin, Texas A&M University; J. William Petty, Texas Tech University; Arthur J. Keown and David F. Scott, Jr., both of Virginia Polytechnic Institute and State University. Glossary; index.

MARTIN, JOHN D., ET AL. *Cases in basic financial management.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. x, 229. $8.95, paper. *JEL 79-1063*

Thirty-three case studies intended to supplement introductory texts in financial management, particularly Martin *et al.*'s *Basic Financial Management* [see *JEL no. 79-1062*]. In six sections: financial analysis and planning; working capital management; capital investment decisions; valuation and cost of capital; long-term financing; and noteworthy financial management problems. Interest tables in appendix. Co-authors include J. William Petty, Arthur J. Keown, and David F. Scott, Jr. No index.

NICKELL, S. J. *The investment decisions of firms.* The Cambridge Economic Handbooks. London and

New York: Cambridge University Press; Welwyn, England: Nisbet, 1978. Pp. xi, 326. $29.50, cloth; $9.95, paper. *JEL 79-1064*

Concerned with the decision by firms to invest in fixed capital. Discusses basic theory, including a simple model of investment decisions, costs of adjustment, delivery lags and irreversible investment decisions, the problem of uncertainty, uncertainty in a dynamic context, and replacement and depreciation. Considers a number of particular theoretical issues in the areas of finance, taxation, and government policy, and ends with a review of empirical work in the field. First in a new series of Cambridge Economic Handbooks, issued under the general editorship of Professor Frank Hahn, University of Cambridge. The author is Reader in Economics, the London School of Economics, and one of the managing editors of the *Review of Economic Studies*. Bibliography; index.

RAY, MARVIN E. AND SCOTT, DAVID L. *Finance*. Cambridge, Mass.: Winthrop; distributed by Prentice-Hall, Englewood Cliffs, N.J., 1979. Pp. ix, 278. $9.95, paper. *JEL 79-1065*

Text for an introductory course in finance. Covers three basic areas: financial markets and institutions; managerial finance; and investments. Chapters include a summary and questions and problems. The authors are at Valdosta State College, Georgia. Glossary; index.

530 MARKETING

BOWERSOX, DONALD J., ET AL. *Simulated product sales forecasting*. MSU Business Studies. East Lansing: Division of Research, Graduate School of Business Administration, Michigan State University, 1979. Pp. xviii, 357. $20.00. *JEL 79-1066*

Documents the Simulated Product Sales Forecasting model (SPSF), a computerized analytic tool designed to assist management in making and testing sales forecasts. Combines attributes of dynamic simulation, market area demand simulation, and statistical sales forecasting. Developed by a faculty and doctoral research team at the Graduate School of Business Administration of Michigan State University. The system enables a decision-maker to assess forecast accuracy and to measure the impact of other logistical and marketing factors on the forecast (warehouse locations, inventory, transportation, pricing, promotion, customer service, and product quality). Discusses system control, input requirements, output characteristics, validation, and applications. Includes documentation of system diagnostics. The primary author is Professor of Marketing and Transportation Administration at Michigan State University; the co-authors—David J. Closs; John T. Mentzer, Jr.; and Jeffrey R. Sims—received their doctoral degrees from Michigan State University. Bibliography; no index.

540 ACCOUNTING

AMERICAN ACCOUNTING ASSOCIATION, COMMITTEE ON CONCEPTS AND STANDARDS FOR EXTERNAL FINANCIAL REPORTS. *Statement on accounting theory and theory acceptance*. Sarasota, Fla.: Author, 1977. Pp. ix, 61. Paper. *JEL 79-1067*

Committee findings that there is no single universally accepted theory of external reporting; summarizes and classifies the three basic approaches to external reporting—classical models, decision usefulness, and information economics—and presents criticisms of each. Finds that theoretical closure has not occurred due to differences in empirical domains, premises, and objectives, making it impossible to call a theory correct or incorrect. Concludes that: (1) theory acceptance cannot be dictated; (2) the scope of external reporting is wider than heretofore perceived; and (3) all theoretical approaches are imperfect when viewed from the perspective of some other theory. Bibliography; no index.

ARNETT, HAROLD E. *Proposed funds statements for managers and investors*. New York: National Association of Accountants, 1979. Pp. ix, 139. *JEL 79-1068*

Analysis of the funds statement in the light of its current and prospective uses in decision-making. Discusses the conceptual basis of the funds statement; makes recommendations for an improved funds statement while remaining within the constraints of presently accepted accounting principles and presents an illustration. Discusses the preparation and uses of internal funds statements. The author is Professor of Accounting at the University of Michigan. Selected bibliography; no index.

BULLOCK, JAMES H. *Maintenance planning and control*. New York: National Association of Accountants, 1979. Pp. xi, 147. *JEL 79-1069*

Examines the current state of accounting for maintenance in manufacturing companies, focusing on its objectives, resources, and interrelationships with other business activities. Presents a conceptual framework for classifying maintenance decisions and outlining the role of the management accountant; analyzes maintenance organization, budgeting, and decision-making; and discusses the work-order system and the issues of maintenance work standards and performance measurement. Based on mail responses from 91 companies and interviews with 18. Findings indicate that improvements are gradually taking place

in both maintenance management and accounting for maintenance. The author is at New Mexico State University. Selected bibliography; no index.

CONNOR, JOSEPH E. AND DE VOS, BURNELL H., JR., eds. *Guide to accounting controls: Establishing, evaluating and monitoring control systems.* Boston: Warren, Gorham & Lamont, 1979. Pp. xiv, irregular. $84.00, binder. *JEL 79–1070*

Nine individual guides contained in a ringed binder that present a cost-benefit process for making internal accounting control decisions. Following an introduction on the importance of internal accounting control since the passage of the Foreign Corrupt Practices Act are booklets on: financial reporting; electronic data processing operation; revenues and receivables; production costs and inventories; production assets; purchases and payables; employee compensation and benefits; and financial management. Each section has information on: the evaluation process; control objectives; understanding the business; administrative, organization, operating, information system, and internal accounting controls; cost-benefit analysis; and testing for compliance. The editors are with Price Waterhouse & Co. No index.

WILSON, DAVID A.; SHANK, JOHN AND FROLIN, DENNIS. *Contemporary financial reporting: A casebook.* Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. x, 385. $10.95, paper. *JEL 79–1071*

Forty-nine cases in corporate financial reporting intended as a text or a supplement to any conventional financial accounting text. In four parts: revenue recognition; asset valuation; accounting for liabilities and shareholder's equity; and corporate financial reporting. Lists specific questions at the end of each case. The authors are at University of Texas (Austin), The Ohio State University, and Harvard University, respectively. No index.

See also: Book Numbers *JEL 79–0978, 79–1007, 79–1088*

600 Industrial Organization; Technological Change; Industry Studies

610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

ASIAN PRODUCTIVITY ORGANIZATION. *Trucking operations in Asia: Problems and solutions.* Tokyo: Author; distributed by Unipub, N.Y., 1978. Pp. 97. $7.50, paper. *JEL 79–1072*

Report on a 1976 survey by the APO on the nature and problems of trucking operations in nine APO countries: Iran, Pakistan, India, Sri Lanka, Thailand, Indonesia, the Philippines, China, and Japan. Part one presents the major findings of the survey on issues related to both the trucking firms and the government, and part two considers measures for improving trucking productivity in Japan, written by Shigenori Ozaki of the Nittsu Shoji Co., Ltd., Tokyo. The last part presents the recommendations of a symposium held on this survey, including: (1) the governments of these countries should enforce regulations on the registration, construction, maintenance, insurance, and use of trucks, and national laws should be examined for uniformity to encourage international road transport; (2) the trucking firms should aim for more efficient utilization and maintenance of their vehicles; and (3) trucking associations devoted to furthering efficiency should be created in countries that have none at the present time. No index.

BABE, ROBERT E. *Canadian television broadcasting structure, performance and regulation.* A study prepared for the Economic Council of Canada. Hull, Quebec: Canadian Government Publishing Centre, 1979. Pp. ix, 250. $5.00, Canada; $6.00, other countries; paper. *JEL 79–1073*

Analyzes the structure, conduct, and performance of Canadian broadcasting and evaluates the policies and performance of the Canadian Radio-television and Telecommunications Commission (CRTC) with regard to the regulation of the English language and cable television industry. Also reviews broadcasting policies prior to the establishment of the CRTC in 1968. Major conclusions are that "in view of the goals set by Parliament for broadcasting, the performance of the television broadcasting industry in Canada is highly deficient" and "the CRTC appears to be very misguided in its perception of what private broadcasting is and what drives it." Argues that government policy becomes one of state protection of private broadcasting. The author is Associate Professor of Communication, Simon Fraser University. Bibliography; no index.

BENNATHAN, ESRA AND WALTERS, A. A. *Port pricing and investment policy for developing countries.* New York; London; Toronto and Hong Kong: Oxford University Press for the World Bank, 1979. Pp. xv, 230. $12.50, cloth; $4.95, paper. *JEL 79–1074*

Focuses primarily on the principles of pricing or tariff policy in port economies for developing countries; covers only the outline and general direction of investment planning. Advocates making short-run marginal costs the basis of all port tariffs and applies marginal costs principles to analyses

of ship size, port time, competition among ports, and economies of scale in ports. Concludes that (1) despite theoretical support for subsidies, there exist strong practical arguments against them; (2) charging congestion levies will earn high profits in ports; and (3) two-part or multipart pricing systems, gradually installed, will best suit strategic and cost requirements of port tariff policies. The authors are professors at the University of Bristol and the Johns Hopkins University, respectively. Index.

GAGNON, JEAN PAUL AND JANG, RAYMOND. *Federal control of pharmaceutical costs: The MAC experience.* New York: Hoffmann-La Roche, Roche Laboratories, 1979. Pp. 76. *JEL 79–1075*

Reviews background of "Limitations on Payment or Reimbursement for Drugs" or Part 19 of Title 45—Public Welfare, Code of Federal Regulations, popularly known by the acronym MAC. Assesses recent developments and implementation of the regulations adopted in 1975, which consist of a three-part program for reducing drug costs purchased under Medicare, Medicaid, and the Public Health Service. Notes that the most significant factor influencing the form and rate of development of the regulations has been the adversarial relationship between the government and the drug industry and health care providers. Concludes that "Part 19 has not convincingly achieved its objectives" and, pending completion of two current evaluations of MAC, offers recommendations for short-term modifications in the existing program. The authors are Associate Professors, University of North Carolina at Chapel Hill School of Pharmacy. No index.

MAZZOLINI, RENATO. *Government controlled enterprises: International strategic and policy decisions.* Chichester, England; New York; Brisbane and Toronto: Wiley, Wiley-Interscience, 1979. Pp. xxiv, 400. *JEL 79–1076*

Analyzes the multinational strategic and policy decisions of European government controlled enterprises (GCE's). Data come from 304 interviews with leading executives, government officials, and union leaders from the nine EEC countries. The theoretical framework for the study of GCE behavior draws on three conceptual approaches: the traditional approach, where the firm is viewed as a unitary agent; the organizational process approach, with the firm viewed as a complex of semi-independent suborganizations, which operate via set processes; and the organizational politics approach, where decisions are the outcome of internal politics—conflicts, bargains, and compromises. Designed for students of international business, organization theory, and policy decision-making, as well as for managers and government officials. Chapters alternatively present theoretical treatments and practical analyses. The author is a member of the faculty of the Graduate School of Business, Columbia University. Bibliography; index.

PUGEL, THOMAS A. *International market linkages and U.S. manufacturing: Prices, profits and patterns.* Cambridge, Mass.: Harper & Row, Ballinger, 1979. Pp. xi, 136. $15.00. *JEL 79–1077*

Explores the impact of import competition and foreign direct investment on domestic prices and profits of U.S. manufacturing industries and analyzes the determinants of U.S. international trade and investment. Utilizes cross-sectional data from 71 of the 76 IRS minor industries (roughly corresponding to the 3-digit level of the Standard Industrial Classification) to obtain ordinary least squares (and two-stage least squares, where appropriate) estimates of hypothesized long-run equilibrium relations. Finds that import competition constrains pricing in domestic industries, which otherwise wield market power; that tariffs reduce the constraint; and evidence supporting the Heckscher-Ohlin theories of comparative advantage and the product life-cycle theory. Concludes with policy implications. The author is Assistant Professor of Economics and International Business at New York University Graduate School of Business Administration. Bibliography; index.

REEKIE, W. DUNCAN AND WEBER, MICHAEL H. *Profits, politics and drugs.* New York: Holmes & Meier, 1979. Pp. x, 185. $32.75. *JEL 79–1078*

The focus of this examination of the drug industry is the impact of national regulatory legislation in the developed world (particularly in the United Kingdom) on drug demand, price, promotion, research, and profits. Some findings are that (1) the world market for drugs could more than double by 1982; (2) the regulatory climate is becoming "increasingly stringent, and the atmosphere of trust between public, industry and government is being eroded" due, to a large extent, to "politicians"; (3) cost savings plans by government and health insurance funds have failed; and (4) the industry is "competitive" by economic definition. The authors are Lecturer in Business Studies and Lecturer in Marketing at the University of Edinburgh, respectively. Index.

SCHMALENSEE, RICHARD. *The control of natural monopolies.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. ix, 178. $16.95. *JEL 79–1079*

Examines basic problems associated with natural monopoly situations in which some case for social

control exists and alternative control mechanisms. Discusses objectives of such control, arguing that economic efficiency should be the dominant objective, examines aspects of natural monopolies and human behavior that limit effective control and a variety of control structures. Concludes that the economic efficiency should be the single control objective, since it reflects both administrative feasibility and the nature of the problem. Recommends that the regulatory process be dominated by economists. The author is Associate Professor of Applied Economics, Alfred P. Sloan School of Management, Massachusetts Institute of Technology. Bibliography; index.

WEIDENBAUM, MURRAY L. *The future of business regulation: Private action and public demand.* New York: American Management Associations, AMACOM, 1979. Pp. vi, 183. $12.95. *JEL 79–1080*

The central argument of this survey of the current environment of the American economy is that "a reversal of the current trend of ever-increasing government intervention in business is essential not so much from the viewpoint of business, but primarily from the viewpoint of enhancing the welfare of the individual citizen." Details the nature of the problems resulting from proliferation of government activity and lays out "an ambitious agenda of voluntary steps" to be undertaken by business, government, and private interest groups in order "to increase the ability of the business system to meet the needs of the public that business serves." Recommends that benefits and costs of government regulation, including effects on employment, productivity, capital formation, *etc.*, be weighed against each other. The author is Director of the Center for the Study of American Business at Washington University in St. Louis. Index.

WHITEHURST, CLINTON H., JR., ed. *Forming multimodal transportation companies: Barriers, benefits, and problems: A conference.* Moderated by JOHN W. BARNUM. AEI Symposia, no. 79A. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1978. Pp. 179. $10.95, cloth; $4.75, paper. *JEL 79–1081*

Three previously unpublished papers and other proceedings from a conference on the effects of moves to eliminate barriers to the formation of multimodal transportation companies (involving more than one mode of transportation), sponsored by the AEI and held in Washington, D.C., in February 1978. In two parts: Part one includes three papers on federal rules on intermodal ownership (Rodney E. Eyster), the economic pros and cons of multimodalism (Paul O. Roberts), and examination of multimodal ownership in Canada (Harvey M. Romoff). Part two contains transcripts of discussions by representatives of labor, industry, and government on the carriers' reaction to the elimination of regulations, the effects on labor and carrier financing, and the desirability of control of multimodal ownership; also includes an address by then Secretary of Transportation Brock Adams. Concludes that in the context of the total transportation sector, "the probability of multimodal companies in the foreseeable future must be judged as quite high." The editor is at Clemson University. Bibliography; index of participants.

See also: Book Numbers *JEL 79–1050, 79–1159*

620 ECONOMICS OF TECHNOLOGICAL CHANGE

DAVIES, STEPHEN. *The diffusion of process innovations.* New York and London: Cambridge University Press, 1979. Pp. xiv, 193. $25.00. *JEL 79–1082*

Investigates the forces influencing the spread of new production processes within industry using data on 22 process innovations adopted in various U.K. industries since World War II. Provides a theoretical model for the study of the diffusion of innovations. Examines the relationship between industry structure and the speed of diffusion; the importance of the adopting industry's economic environment in influencing the speed of diffusion; and the affect of the nature of the innovation itself on its diffusion. Findings, in part, are: diffusion should be faster, (1) the more profitable the innovation is, (2) "the fewer firms there are in the adopting industry (and because diffusion is a proportional concept this is not a trivial finding)," (3) the smaller the size inequalities between firms, (4) the greater the labor intensity of the adopting industry, and (5) the faster the rate of growth is of the adopting industry. Based on the author's Ph.D. dissertation, University of Warwick, 1976. The author is Lecturer in Economics, University of Sheffield. Index.

DUNN, PETER D. *Appropriate technology: Technology with a human face.* New York: Schocken Books, 1979. Pp. ix, 220. $16.00, cloth; $5.95, paper. *JEL 79–1083*

Examines in non-technical language development programs that stress the application of technology appropriate to combatting poverty, especially rural poverty, in developing countries. Aims at job creation with small-scale, low cost methods. Covers not only the techniques but also the social aspects of development and technology. Devoted mostly to the actual practice of appropriate technology in the areas of food, water and health, en-

ergy, medical services, building services, small industry, and education and research. Appendix contains related statistical and technical material. The author is Professor of Engineering Science at the University of Reading. Index.

MARTIN, F., ET AL. *The interregional diffusion of innovations in Canada.* Ottawa: Economic Council of Canada; distributed by Supply and Services Canada, Hull, Quebec, 1979. Pp. xii, 187. $4.50, Canada; $5.40, other countries; paper. *JEL 79-1084*

Investigates the role that lags in diffusion of technology may play in explaining productivity differences, and hence income differences; in the five major regions of Canada. Focuses on the diffusion of computers, of steel furnaces in the steel industry, of roof trusses, of the containerization of international ocean cargo, of innovations in the newsprint industry, and of shopping centers. Discusses the pattern of regional diffusion for each and the factors pertaining to the diffusion of innovation, and seeks to establish what characteristics of a region may contribute technological leads or lags. Considers leads and lags in initial adoption and in later adoption. Concludes that technological lags are one of a number of factors contributing to productivity differences. The principal author is at the University of Montreal. Co-authors are N. Swan, I. Banks, G. Barker, and R. Beaudry. Bibliography; no index.

ROSENBLATT, SAMUEL M., ed. *Technology and economic development: A realistic perspective.* Foreword by HARLAN CLEVELAND. Westview Special Studies in Social, Political, and Economic Development. Boulder, Colo.: Westview Press; in cooperation with the International Economic Studies Institute, 1979. Pp. xv, 191. $17.00. *JEL 79-1085*

Five previously unpublished papers focused on technology's role in the development process and the problem of technological transfer. The editor cites a concensus of the authors on the recognition that: (1) the solutions found in technology for LDC's are limited; (2) the latest technology is not invariably inappropriate nor the most basic invariably appropriate; (3) that adaptations of the technology and adaptation of their economic and social policies to the technology is a responsibility of the LDC's; (4) transnational enterprise is neither hero nor villain but a necessary if unfortunate conveyor of technology; (5) "goodwill, incentives, . . . [or] political decisions can[not] substitute for the basic disciplines of competitive economic forces in the developing countries themselves" in the transfer of technology. The authors include Gustav Ranis, Howard Pack, Nathaniel Leff, Samuel M. Rosenblatt, and Timothy W. Stanley. The editor is project director for the International Economic Studies Institute's Technology Studies and chief economic consultant to the International Economic Policy Association. No index.

STREET, JAMES H. AND JAMES, DILMUS D., eds. *Technological progress in Latin America: The prospects for overcoming dependency.* Westview Special Series on Latin America and the Caribbean. Boulder, Colo.: Westview Press, 1979. Pp. xxii, 257. $20.00. *JEL 79-1086*

Twelve papers and case studies, four previously published, appraising the prospects for internal technological development in Latin America; selected from papers presented at recent meetings. Four papers review the nature of technological dependency and examine the possibilities of stimulating indigenous research and development. The remaining papers constitute case studies of successful internal technological diffusion in various sectors and countries. Contributors, most of them American economists, employ empirical techniques to establish their conclusions. The editors are Professor of Economics at University College, Rutgers University, and Professor of Economics at the University of Texas, El Paso, respectively. No index.

WALKER, WILLIAM B. *Industrial innovation and international trading performance.* Contemporary Studies in Economic and Financial Analysis, vol. 15. Greenwich, Conn.: JAI Press, 1979. Pp. xiv, 122. $17.50. *JEL 79-1087*

Contends that the present forms of the technology-gap and product-cycle theories in international trade theory are unsatisfactory in that they lead to underestimation of the innovator's ability to maintain and extend his monopoly power and fail to capture the dynamic impact of innovation on production location and growth of industrial wealth. Reviews international trade theories, describes international trade patterns in OECD manufactured goods from 1945–73, and analyzes statistically the impact of product and process innovation on the historical trading patterns of selected industries during the postwar period up to 1973, with emphasis on the 1963–73 period. Argues that neoclassical theory does not recognize the destabilizing effect that technological change has on international trading patterns and that product cycle theory is inappropriate for analysis of capital goods industries. Finds that innovation has a dynamic impact on the survival and growth of firms and suggests that "an injection of Schumpeterian ideas could do much to revitalize trade theory" and that detailed technological studies of

the evolution of products and processes are desirable. The author is at the Science Policy Research Unit, University of Sussex. Index.

See also: Book Numbers *JEL 79-0891, 79-0932, 79-1052, 79-1090, 79-1159*

630 Industry Studies

ARNETT, HAROLD E. AND DANOS, PAUL. *CPA firm viability: A study of major environmental factors affecting firms of various sizes and characteristics.* Ann Arbor: Paton Accounting Center and Division of Research, Graduate School of Business Administration, University of Michigan, 1979. Pp. xiii, 154. Paper. *JEL 79-1088*

An analysis of the environment in which U.S. accounting firms operate and characteristics of the firms, based primarily on interviews and questionnaires directed to 50 large and small CPA firms and CPA associations. Reviews problems of viability, economies of scale, competition, and regulations as well as characteristics of the firm (personnel recruitment, training, and retention) and professional constraints (ethical standards, advertising of services, *etc.*). Formulates five firm profile characteristics (adaptability, aggressiveness, competitive confidence, organizational formality, and professional rigidity) to study differences between larger and smaller firms and to compare characteristics with measures of business success. The authors are on the faculty of the Accounting Department of the University of Michigan Graduate School of Business Administration. No index.

BRENNAN, MICHAEL J. AND SCHWARTZ, EDUARDO S. *Pricing and investment strategies for guaranteed equity-linked life insurance.* Monograph no. 7. Philadelphia: S. S. Heubner Foundation for Insurance Education, Wharton School; distributed by Irwin, Homewood, Ill., 1979. Pp. xv, 123. $12.00, paper. *JEL 79-1089*

Concerned with the determination of pricing and investment strategies that can reduce the risk of an equity-linked policy with an asset value guarantee (ELPAVG); known in this country as variable life insurance policies, ELPAVG's are contracts where the insurance company pays a benefit at the expiration of the contract, equal to the greater value of either a reference portfolio of common stocks or a minimum guaranteed amount. Develops an alternative premium-pricing policy that makes use of risk-reducing investment strategies. Tests strategy effectiveness, using simulation analysis, and finds the risk-reducing strategies "to be highly effective in reducing the risk of extreme losses and would therefore permit an insurance company to hold substantially less in reserves" than would otherwise be required. The authors are Professor and Assistant Professor of Finance, respectively, at the University of British Columbia. Index.

GREENBERG, EDWARD; HILL, CHRISTOPHER T. AND NEWBURGER, DAVID J. *Regulation, market prices, and process innovation: The case of the ammonia industry.* Assisted by THOMAS M. HELSCHER, WILLIAM V. KILLORAN, AND ALAN D. NORMAN. Westview Replica Edition. Boulder, Colo.: Westview Press, 1979. Pp. xix, 241. $20.00. *JEL 79-1090*

Examines the relationship between innovation and regulation, combining legal, engineering, and economic analysis by a case study of historical change in technologies used for the production of synthetic anhydrous ammonia. Emphasizes the industry's technological responses to input prices and to government regulation of the workplace and of environmental quality, based on technical and legal literature through 1976. Using data for steam reforming of natural gas, for the period 1947 to 1972, the authors find that input factor coefficients respond to input prices with a 6-year lag. Also finds that regulation of workplace safety and health is not associated with process change and that regulation of environmental quality has led only to minor process changes. The authors are Professor of Economics, Washington University; Senior Research Associate, the Center for Policy Alternatives, Massachusetts Institute of Technology; and Assistant Professor of Law, the Washington University School of Law, respectively. No index.

JAFFE, AUSTIN J. *Property management in real estate investment decision-making.* Lexington Books Special Series in Real Estate and Urban Land Economics. Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xviii, 172. $21.00. *JEL 79-1091*

Using an operations research approach, examines the existing theory in the evaluation of real estate investment property. Examines computerized real estate modelling literature and reviews sensitivity studies. Finds, assuming that each of the variables are independent of one another, that operating expenses are the most crucial variable in terms of impact on real estate investment yield and value and that property management variables in general exert the most significant impacts; expected growth rate of the future selling price is also a significant variable. The author is Assistant Professor of Finance and Real Estate, Department of Finance, University of Oregon. Author and subject indices.

LOONEY, J. W. *Estate planning for business owners.* St. Louis: Doane Agricultural Service; Reston, Va.: Prentice-Hall, Reston, 1979. Pp. x, 291. $14.95. *JEL 79-1092*

Guidebook on the formulation of a sound estate and retirement plans for owners of family-owned businesses. Discusses probate and taxation, property co-ownership, the use of a will, the role of trusts and insurance, transfer of interest, and the planning process. Includes several case studies. The forms of several agreements and legal documents are illustrated in appendices. The author is an Assistant Professor of Agricultural Law, Virginia Polytechnic Institute and State University, Blacksburg. Glossary; index.

MIKESELL, RAYMOND F. *The world copper industry: Structure and economic analysis.* Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1979. Pp. xvi, 393. $24.00, cloth; $10.95, paper. *JEL 79-1093*

Survey of the history, structure, economics, and policy issues of the world copper industry. Describes the physical characteristics of the industry (in a chapter written by John W. Whitney) and their relationship to industrial and market structure. Includes a chapter (written by Kirkor Bozdogan and Raymond S. Hartman) providing an overview of econometric commodity modeling techniques applied to the estimation of demand and supply conditions for copper. Discusses policy issues relating to foreign investment, international cartels, nationalization, competitiveness of the industry, the adequacy of future supplies, environmental protection, conservation, and the possibilities of moderating sharp fluctuations in copper prices. Finds support for an optimistic view of the industry's ability to meet future world requirements and to find solutions to current problems. The author is W. E. Miner Professor of Economics at the University of Oregon, Eugene. Index.

See also: Book Numbers *JEL 79-1024, 79-1075, 79-1078, 79-1123, 79-1134*

700 Agriculture; Natural Resources

710 AGRICULTURE

BERRY, R. ALBERT AND CLINE, WILLIAM R. *Agrarian structure and productivity in developing countries: A study prepared for the International Labour Office within the framework of the World Employment Programme.* Baltimore and London: Johns Hopkins University Press, 1979. Pp. x, 248. $17.50. *JEL 79-1094*

Examines the relationship between farm size and factor productivity. Reviews theories relating farm size to productive potential; investigates the limited data available internationally to explore comparatively the effect of agricultural structure on productivity; and analyzes the relatively rich sample survey data available for Brazil, Colombia, the Philippines, Pakistan, India, and Malaysia. Findings point to a "systematically higher land productivity on small farms than on large ones, and to total factor productivities that are at least comparable." The policy implication for developing countries is for land redistribution into family farms as a means of raising production and improving rural employment and equality of income distribution. Appendices include a paper by Surjit S. Bhalla entitled "Farm size, productivity, and technical change in Indian agriculture," a paper by William R. Cline on relative land-utilization intensity across farm-size groups in relationship to country factor endowment, relevant data about other countries, and additional statistics. The authors are Professor of Political Economy, University of Toronto, and Senior Fellow, The Brookings Institution, respectively. Index.

BOLLMAN, RAY D. *Off farm work by farmers.* Census Analytical Study. Ottawa: Statistics Canada by authority of the Minister of Industry, Trade, and Commerce, 1979. Pp. 214. $2.80, paper. *JEL 79-1095*

Investigates the interrelationship between and the determinants of the farm and off-farm work of farmers, focusing on (1) the role of off-farm work by farmers in food production and (2) the role of off-farm work in improving farmers' income. Derives a kinked demand curve for farmers' labor; estimates a probability response model to predict farmer participation in off-farm work; analyzes the extent, trends, and structure of part-time farming in Canada for the period 1936-76; reviews and uses the available data in a multivariate cross-section analysis of off-farm work by farmers in 1971. Based upon Census of Agriculture, 1936-76 and the 1971 Agriculture-Population linkage. Major conclusions are that (1) part-time farming can exist in a stable equilibrium situation and can represent an efficient resource allocation, (2) the incidence of off-farm work has changed very little since 1941, but part-time farmers are spending more time in off-farm work each year, and (3) permanent part-time farming may be a solution to problems of low incomes and rural depopulation. Bibliography; no index.

CAMPBELL, KEITH O. *Food for the future: How agriculture can meet the challenge.* Lincoln and Lon-

don: University of Nebraska Press, 1979. Pp. x, 178. $12.50. *JEL 79–1096*

Focuses on the long-term prospects for improved world agricultural output. Contends that "with the prospect of continued progress in containing population growth and with more attention to agricultural science and its application on farms, the world can look forward to substantially better diets in the future than were ever enjoyed in the past." Outlines likely trends in the demand for food in the next 50 years and the present state of world agriculture; examines resource constraints; reviews the possibilities, policies, and organization of agricultural research; discusses rural institutions, land reform, and economic devices to encourage and to discourage agricultural industries; evaluates the role of trade and aid in the world food supply; and concludes with suggested agenda for governments of developed and developing countries to stress agricultural research, give emphasis to agriculture's role in development, and improve distribution. The author is Professor of Agricultural Economics, University of Sydney. Index.

CHAUDHRY, MAHINDER D., ed. *Rural development.* Contributions to Asian Studies, vol. 13. Leiden: Brill, 1979. Pp. x, 198. *JEL 79–1097*

Ten previously unpublished papers by economists, anthropologists, a sociologist, and an educator on aspects of rural development in India and other developing countries. In five parts, the papers focus on employment and unemployment, education and development, social and political structures, fertility and food, and banking and development. The editor is Professor of Economics at the Royal Military College of Canada, Kingston. No index.

FENN, G. M. *Marketing livestock and meat.* With a contribution by I. OZORAI. Second edition. FAO Marketing Guide, no. 3. FAO Animal Production and Health Series, no. 1. Rome: Food and Agriculture Organization of the United Nations; distributed by Unipub, N.Y., [1960] 1977. Pp. xiii, 198. $10.00, paper. *JEL 79–1098*

This edition of a guide on marketing in less developed countries incorporates experiences of experiments and changes in marketing and trade policies in developing countries which became independent in the 1960's. Covers the movement and handling of livestock; the organization of slaughter; the processing of by-products; the preservation, storage, and transport of meat; the assembly and purchase of livestock; the distribution and sale of meat; export marketing; governments' influences on marketing operations; prices in the markets for livestock and meat; and the concepts of marketing efficiency and marketing improvements underlying most official programs. Some reference is made to conditions in industrialized countries to illustrate particular points or experiences. Selected bibliography; index.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, STUDY MISSION. *Learning from China: A report on agriculture and the Chinese people's communes.* Rome: FAO; distributed by Unipub, N.Y., 1977. Pp. viii, 112. $5.00, paper. *JEL 79–1099*

First in a series of three studies of various aspects of Chinese agriculture. The objectives of this study are: Chinese approaches to agricultural and rural development; analysis of Chinese communes as an example of integrated rural development; and examination of the ways the Chinese development experience may be transferable to developing countries elsewhere. Includes background to Chinese agricultural development and discussions of people's communes, agricultural achievements, lessons to be drawn from the Chinese experience, and suggestions for China/FAO cooperation. No index.

FRANCISCO, RONALD A.; LAIRD, BETTY A. AND LAIRD, ROY D., eds. *The political economy of collectivized agriculture: A comparative study of communist and non-communist systems.* Pergamon Policy Studies, no. 14. New York; Oxford; Toronto and Sydney: Pergamon Press, 1979. Pp. xii, 250. $19.50. *JEL 79–1100*

Eight papers, revisions of papers originally presented at the American Political Science Association meeting in Washington, D.C., in September 1977, and at a conference at the University of Nebraska in April 1978, assess the political and economic impact of different forms of collective or state farming. Papers examine the techniques, successes, and failures of agricultural collectivization in the U.S.S.R., Romania, the German Democratic Republic, Poland, Hungary, Czechoslovakia, China, and the Israeli kibbutz. Evidence suggests that collectivization has been "uniquely successful in Israel, seemingly positive in China, and mixed or unsuccessful in other states" and usually fails to maximize productive potential. A principal conclusion is that "collectivization . . . has been most successful as an adaptation to a declining and insufficient labor force . . . [and] does not then seem well-suited to food-deficit countries of the Third World." R. A. Francisco and R. D. Laird are Assistant Professor and Professor of Political Science and Soviet and East European Affairs, respectively, at the University of Kansas, and B. A. Laird

is an independent research analyst. Authors include: Trond Gilberg, Jaroslaw A. Piekalkiewicz, Ivan Volgyes, Joseph Hajda, Benedict R. Stavis, William Safran, Roy D. Laird, and Ronald A. Francisco. Index.

HIRASHIMA SHIGEMOCHI. *The structure of disparity in developing agriculture: A case study of the Pakistan Punjab.* IDE Occasional Papers Series, no. 16. Tokyo: Institute of Developing Economies, 1978. Pp. x, 138. $18.00. *JEL 79–1101*

Examines the causes of the present forms of income disparity in the Pakistan Punjab agriculture and hypothesizes that "the disparity condition changes over time not only by the impacts of either institutional or technological change, but also by their process of interaction." Uses this framework to analyze land and revenue policy, the development of technology, and changes in the land tenure structure toward landlordism during the period of British rule. Discusses the development of institutions and technology since 1947, considers the relevance of disparity developed during the British rule to the post-independence period examines efficiency and disparity for different strata of the farming sector in surveyed villages, and analyzes the disparity between farming and non-farming sectors. Concludes that the causes of disparity in Punjab agriculture are the creation of private rent property, inequitable distribution of property, and faster growth rates in land prices than in productivity. The author is a senior research officer, Institute of Developing Economies, Tokyo. Selected bibliography; no index.

HOGENDORN, JAN S. *Nigerian groundnut exports: Origins and early development.* Ahmadu Bello University History Series. Zaria: Ahmadu Bello University Press; Ibadan: Oxford University Press Nigeria, 1978. Pp. xvi, 173. $29.95. *JEL 79–1102*

Traces the development of the Nigerian groundnut (peanut) industry from the time of military pacification of Northern Nigeria in 1907 to the outbreak of the First World War. Discusses the role of the railroad to the north in opening up the export of groundnuts to Europe (particularly Germany) and ultimately foiling British plans to establish a cotton industry. Emphasizes the entrepreneurial acumen of Hausa traders and farmers in adapting to changing profit opportunities in the face of the customary view of the Hausa people as lacking in economic initiative. Argues that study supports formalist school view that "rational economic responses to standard economic incentives . . . often . . . permeate the behaviour of many so-called primitive peoples." The author is Grossman Professor of Economics at Colby College. Bibliography; index.

LINNEMANN, HANS, ET AL. *MOIRA: Model of international relations in agriculture: Report of the project group 'Food for a Doubling World Population.'* Contributions to Economic Analysis, no. 124. Amsterdam; New York and Oxford: North-Holland, 1979. Pp. xv, 379. $39.00. *JEL 79–1103*

Focuses on a description of MOIRA, an algorithmic simulation model constructed to analyze policy alternatives, which describes the food sector of individual countries and links these sectors through an equilibrium model of international trade. MOIRA was developed by a group, loosely associated with the Club of Rome, for studying future levels of food production and consumption under a variety of policy and state-of-the-world assumptions. Includes an assessment of potential world food production, a description of the model, the results of simulation runs, and a sensitivity analysis of simulated outcomes to changes in exogenous factors. Concludes that MOIRA has limited value as a prognostic tool, but represents a first step in understanding the international economic interrelations of food production and consumption. Hans Linnemann, the project leader, is Professor of Development Economics; Jerrie De Hoogh is Professor of Agricultural Economics; and Michael A. Keyzer is an economist (all at the Free University, Amsterdam); Henk D. J. Van Heemst is an agronomist at the Centre for Agrobiological Research in Wageningen, The Netherlands. Index.

ROUMASSET, JAMES A.; BOUSSARD, JEAN-MARC AND SINGH, INDERJIT, eds. *Risk, uncertainty and agricultural development.* College, Laguna, Philippines: Southeast Asian Regional Center for Graduate Study and Research in Agriculture; New York: Agricultural Development Council, 1979. Pp. xx, 453. $15.00, cloth; $10.00, paper. *JEL 79–1104*

Twenty-one previously unpublished papers on optimal farm input decisions under risk and uncertainty and the testing of alternative models. Almost all the papers were originally presented at a conference sponsored by the Research and Training Network of the Agricultural Development Council, held at the International Maize and Wheat Improvement Center, El Batan, Mexico, on 9–12 March 1976, and have since been revised. The first five parts are concerned with modelling decision-making under risk, measuring risk and risk preferences, and determining the effect of risk on resource allocation. Parts six and seven are devoted to risk and agricultural policy, and the last part includes two papers on possible future re-

search. The six decision models covered include: expected utility, Bayesian, safety first, cautious optimizing, Shackle, and pure behavioral. J. A. Roumasset is Agricultural Development Ccouncil Philippine Representative and Associate Professor, Department of Economics, University of Hawaii, Manoa; J.-M. Boussard is at the *Institut National de la Recherche Agronomique*, Paris, and I. Singh is an economist with the World Bank, Washington, D.C. Author and subject indices.

RYMON, DAN. *Demand estimates for fresh peaches in Israel.* Agricultural Research Organization Division of Research Economics, Special Publication, no. 136. Bet Dagan, Israel: Division of Scientific Publications, Volcani Center, 1979. Pp. iv, 40. *JEL 79-1105*

Report in Hebrew (with English summary) on estimations of the variables that have an effect on the demand for peaches in Israel in the 1970's, as represented by real price and a determination of the homogeneity of demand during the marketing season as a determinant of prices. Uses Ordinary Least Squares; data come from official sources. No index.

SHAH, C. H., ed. *Agricultural development of India: Policy and problems.* R. P. Nevatia Felicitation Volume. Bombay: Orient Longman, 1979. Pp. xliii, 688. $95.00. *JEL 79-1106*

Twenty-five essays (three previously published) critically examine Indian agricultural policy and problems and consider the prospects for future developments in agriculture and its role in economic growth. Authors are foreign and Indian experts, and topics are grouped into six sections: (1) planning and policy; (2) food, marketing, and prices; (3) production modes and institutions; (4) resources; (5) technological change, extension, and innovation; and (6) the role of agriculture—looking ahead. Includes an introduction by the general editor, C. N. Vakil, editor of an earlier companion volume, *Industrial Development of India—Policy and Problems* (1973). Subject and author indices.

WIERER, K. AND ABBOTT, J. C. *Fertilizer marketing.* FAO Marketing Guide, no. 7. FAO Economic and Social Development Series, no. 12. Rome: Food and Argiculture Organization of the United Nations; distributed by Unipub, New York, 1978. Pp. xvi, 156. $8.50, paper. *JEL 79-1107*

A guide to fertilizer marketing designed for use by people involved in fertilizer distribution in the developing countries and organized as a training manual. Emphasizes all aspects of management, including aspects of market analysis, marketing organization, business management, logistical operations, and government policy. Some examples of practices and trends in more developed countries are used for illustration and comparison. Draws on the results of various studies and on experience from field projects implemented by the Food and Agriculture Organization (FAO) under the FAO Fertilizer Programme and for the United Nations Development Programme. Index.

WONG, JOHN, ed. *Group farming in Asia: Experiences and potentials.* Singapore: Singapore University Press, 1979. Pp. xvi, 296. $30.00, cloth; $15.00, paper. *JEL 79-1108*

Twenty-one papers based on proceedings of the Regional Research and Training Programme of the Agricultural Development Council in Singapore in August 1977. In this effort to assess the experience and potential of group farming in areas outside the traditional socialist bloc, the focus is on the impact of institutional constraints and innovations on the process of agricultural and rural development in East Asia, Southeast Asia, and South Asia. Some conclusions are that (1) the development of group farming in East Asia (Japan, South Korea, and Taiwan) seems to have been more successful than in Southeast Asia and South Asia; (2) despite its longer history of cooperative movements, the Indian subcontinent has not been successful in group farming programs; and (3) group farming is not yet firmly established in Southeast Asia. Authors include economists, agriculturalists, sociologists, and an anthropologist. The editor is Senior Lecturer at the Department of Economics and Statistics, University of Singapore. Index.

See also: Book Numbers *JEL 79-0932, 79-0994, 79-1006, 79-1019*

720 NATURAL RESOURCES

ARAD, RUTH W., ET AL. *Sharing global resources.* Introduction by EDWARD L. MORSE. 1980s Project/Council on Foreign Relations. New York; New Delhi; Paris and London: McGraw-Hill, 1979. Pp. xvi, 220. $9.95, cloth; $6.95, paper. *JEL 79-1109*

Three previously unpublished essays on the uncertainties about the role of resources in the 1980's. Ruth W. Arad and Uzi B. Arad present a macro view on the likelihood of new commodity cartels and the prospects of armed conflicts over the control of and access to natural resources in the late 1980's; Rachel McCulloch and José Piñera assess alternative international arrangements and managing trade in international commodities, with regard to objectives of international income redistribution, stability for exporters, security for

importers, and economic efficiency; and Ann L. Hollick discusses the laws regulating the access and use of ocean space. Conclusions are: (1) there will be more disputes over resources, but they will fall short of causing a war; (2) both the North and South can gain from cooperative action in primary-commodity trade; and (3) neither of the current ocean regimes—laissez faire behavior or cooperative management for general global welfare—has been an ideal blueprint for exploitation of ocean resources. Selected bibliography; index.

ASIAN PRODUCTIVITY ORGANIZATION. *Energy management in selected Asian countries.* Tokyo: Author; distributed by Unipub, New York, 1978. Pp. ii, 144. $8.00, paper. *JEL 79–1110*

Report on a survey of the patterns and practices of energy use in eight APO countries—Republic of China, India, Japan, Republic of Korea, Nepal, Singapore, Thailand, and Sri Lanka. Part one reports on the current energy position and prospects for the future, and part two presents recommendations from a symposium held by the APO on energy management. The last part includes six previously unpublished papers on: cost-benefit analysis of energy saving efforts (Ryoichi Tanaka), Taiwan's energy saving in manufacturing (Tah-tsung Feng), technology and energy sources (P. R. Srinivasan), solar energy research in Japan (Taira Sunami), heat management in Korea (Sul-hyun Yang), and biogas energy (S. K. Subramamian). Recommends that the various governments devise concrete energy plans stressing the need for conservation, emphasizing the importance of implementation at the firm level, and that utilization of new energy sources be geared around resource potential. No index.

CLAWSON, MARION. *The economics of U.S. nonindustrial private forests.* Resources for the Future Research Paper R-14. Washington, D.C.: Resources for the Future; distributed by Johns Hopkins University Press, Baltimore, 1979. Pp. xxiv, 410. $8.95, paper. *JEL 79–1112*

Describes and analyzes the present and past (since 1952) status of the nonindustrial private forests in the United States. Presents statistical characteristics of nonindustrial forest ownerships; calculates biological productive capacity; discusses data on timber inventory, net growth, removal, mortality, and marketing and processing; considers problems of ownership, growing, and harvesting; reviews nonwood outputs; and evaluates public forestry programs. A unique feature is the disaggregation of national data—taken, for the most part, from the Forest Service—to a state basis. Concludes, contrary to the view that nonindustrial private forest owners will not supply timber, that "in the long run nearly all truly merchantable timber from such forests will be sold and harvested in regions where good markets exist." Extensive statistical appendices. No index.

DONIGER, DAVID D. *The law and policy of toxic substances: A case study of vinyl chloride.* Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1978. Pp. xii, 179. $12.50, cloth; $4.95, paper. *JEL 79–1112*

Examines the complexity and fragmentation of the U.S. government programs (20 separate statutes empowering regulation by 5 major agencies) to control toxic substances. Also analyzes how agencies cope with the problems of uncertainty and competing, dissimilar interests. Concerned with the reported incidence of cancer among workers in the field, the major portion is a case study surveying the uses of vinyl chloride and polyvinyl chloride (a product made from the petrochemical gas and the second most widely used plastic in the U.S.), the technology and economics of associated industries, and what is known of the gas's toxicity. Finds that the case study illustrates "the factual uncertainties and value conflicts inherent in individual control decisions" and recommends better coordination of efforts by government and others, *e.g.*, health and environmental groups and unions, to deal "with the tremendous number of substances that merit regulation." This work is a reprint of a longer article that appeared in a special 1978 issue of the *Ecology Law Quarterly.* The author is an attorney with the Natural Resources Defense Council, Washington, D.C. No index.

EDWARDS, JOHN AND ROBBINS, PETER. *Guide to non-ferrous metals and their markets.* London: Kogan Page; New York: Nichols; 1979. Pp. 211. $32.50. *JEL 79–1113*

Part one is a nontechnical discussion of the production, development, and sale of nonferrous metals, including a survey of factors influencing future supplies and prices. Part two provides an alphabetical review of grades available, production methods, major uses, main market features, known world reserves, and methods of marketing and prices of 32 individual metals. Numerous appendices give additional data about the world market. The authors are Commodities Editor of the [London] *Financial Times* and a director of Wogen Resources, Ltd., respectively. No index.

FOLIE, MICHAEL AND ULPH, ALISTAIR. *Self-sufficiency in oil: An economic perspective on possible Australian policies.* Caer paper no. 6. Kensington,

Australia: Centre for Applied Economic Research, 1979. Pp. 147. $3.00, paper. *JEL 79-1114*

An analysis of the Australian oil market in the period 1978–2005 in the absence of any change in government policy. Discusses changes in world oil prices; projects Australian demand for the liquid fuels; analyzes the behavior of indigenous supply from both conventional and unconventional sources of oil and liquid petroleum gas (LPG); estimates the value and quantity of oil imports and assesses the impact of substantial imports of crude oil on Australian balance of payments; and considers policies for dealing with persistent trade deficits, oil embargoes, and stockpiling. Based on 27 scenarios, the authors conclude that balance-of-payments problems from the growing cost of imported oil are not likely to be overly serious; also they argue: that a general adjustment in the structure of the economy is preferable to a government policy of increased self-sufficiency; that stockpiles will have to be financed by the government; and that there should be increased research into conservation and oil substitution and that since private sector investment is likely to be inadequate, Australia should not be a leader in research programs; consequently a major role for government is to provide information about overseas research programs. No index.

FREEMAN, A. MYRICK, III. *The benefits of environmental improvement: Theory and practice.* Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1979, Pp. xiv, 272. $18.50, cloth; $6.95, paper. *JEL 79-1115*

Examines methods for estimating benefits and costs of environmental pollution control, the relationship to the underlying economic welfare theory, and the pitfalls and problems in the empirical implementation of the techniques. Argues that benefit estimation is possible in principle, at least for some important classes of benefits, but the task of benefit estimation is likely to be quite difficult in terms of obtaining data and building models. Designed for professional economists and students with a good grasp of microeconomic theory. The author is an associate and continuing consultant to Resources for the Future, and Professor of Economics, Bowdoin College. No index.

GAINES, LINDA; BERRY, R. STEPHEN AND LONG, THOMAS VEACH, II. *TOSCA: The total social cost of coal and nuclear power.* Cambridge, Mass.: Harper & Row, Ballinger, 1979. Pp. xii, 126. $17.50. *JEL 79-1116*

Presents a method for the determination of the optimal mix of fossil-fueled and nuclear-fueled electric power plants: total social cost analysis (TOSCA), which includes both externalized and internalized costs. Using the United States for the next three decades as an example, the authors decribe ways to calculate costs and present results of various estimates with factor cost changes, mix of plants changes, *etc.* Concludes that the optimal mix: (1) is a sensitive function of capital and fuel costs; (2) depends on several ethical judgments such as how much (if at all) to discount human life; (3) is insensitive to safeguards against sabotage and to climatic considerations; and (4) varies from one locality to another. Appendix includes a description of the computer program. L. I. Gaines is a physicist with Argonne National Laboratory; R. S. Berry, a physical chemist, is a Professor at the University of Chicago; and T. V. Long, II, is a Research Associate (Associate Professor) with the Committee on Public Policy Studies, University of Chicago. Index.

GRIFFIN, JAMES M. *Energy conservation in the OECD: 1980 to 2000.* Cambridge, Mass.: Harper & Row, Ballinger, 1979. Pp. xiii, 297. $18.50. *JEL 79-1117*

Aims to provide basis for evaluating possibilities of energy conservation. Develops a model of the determinants of demand for energy and specific fuels for the OECD countries as a policy simulation vehicle to show the impact of price and economic growth on energy consumption. The authors estimate the future fuel gap that can be filled by conservation, thus defining how much must be made up in increased energy production. Also considers several policy implications, particularly the welfare costs of conservation given five different demand scenarios for the period 1972 to the year 2000 and implications for optimal pricing by OPEC for the same period. The author is Professor of Economics, University of Houston. Index.

HOWE, CHARLES W. *Natural resource economics: Issues, analysis, and policy.* New York; Chichester, England; Brisbane and Toronto: Wiley, 1979. Pp. xxviii, 350. $19.95. *JEL 79-1118*

A textbook intended for upper-level undergraduates and first-year graduate students. Focuses on the theoretical formulation of natural resource problems, the use of economic analysis to deal with those problems, and real world examples of historical and contemporary situations. Presents analytical case studies of energy resources, minerals, forestry, fisheries, water resources, and natural environments and discusses policy issues related to these sectors and to the formulation of a "responsible natural resources policy." The exposition includes graphical analysis and simple mathematical models. Assumes economic principles and col-

lege mathematics courses. The author is Professor of Economics at the University of Colorado. Bibliography; index.

LECOMBER, RICHARD. *The economics of natural resources.* London: Macmillan Press; New York: Wiley, Halsted Press, 1979. Pp. 247. $19.95. *JEL 79–1119*

Evaluates the rate of exploitations of renewable and nonrenewable natural resources, particularly as it applies to experience in the United Kingdom and the United States. Assesses the ability of market forces, substitution, technological progress, and new discoveries to ameliorate impending resource scarcity. Discusses socially and individually optimal resource use, sources of market imperfection, and remedies (zero economic growth, recycling subsidies, resource taxes, *etc.*). Devotes two chapters to a detailed examination of the energy problem. The author is Reader in Economics at the University of Bristol. Bibliography; name and subject indices.

MERROW, EDWARD W.; CHAPEL, STEPHEN W. AND WORTHING, CHRISTOPHER. *A review of cost estimation in new technologies: Implications for energy process plants: Prepared for the U.S. Department of Energy.* Rand Series no. R-2481-DOE. Santa Monica, Calif.: Rand, 1979. Pp. xi, 117. $7.00, paper. *JEL 79–1120*

To aid in the development of improved cost estimation in the energy field, examines cost estimation experience in weapons systems, large public works projects, and energy process plants. Reviews the literature on cost estimating techniques and problems in chemical process plants. Points out that cost growth occurs not only in energy process plants and weapons systems but in other public and some large private establishments as well. A principal conclusion is that "cost estimation for new technologies is a difficult and uncertain task" and "the stages of design and engineering for the first commercial plant appears to play an important role in estimating accuracy." Suggests strategies to the Department of Energy for dealing with cost uncertainty in planning and managing the development and commercialization of new energy process plant technologies. Bibliography; no index.

MOOZ, WILLIAM E. AND SIEGEL, SIDNEY. *A comparison of the capital costs of light water reactor and liquid metal fast breeder reactor power plants: Prepared for the U.S. Arms Control and Disarmament Agency.* R-2441-ACDA. Santa Monica: Rand Corporation, 1979. Pp. ix, 65. $5.00, paper. *JEL 79–1121*

Develops estimates of the relative capital cost of liquid metal fast breeder reactor (LMFBR) and light water reactor (LWR) power plants to be built early in the next century. Estimates "current" costs for a mature LMFBR and then extrapolates 40 years into the future under two scenarios: a social and political environment that encourages nuclear power, and where the level of encouragement is only modest because of the concern for safety. With an initial LMFBR/LWR cost ratio of 1.5, the future ratio will be between 1.75 and 1.9 depending on construction time. Capital cost data sets in appendix. No index.

PARK, DANIEL. *Oil & gas in Comecon countries.* London: Kogan Page; New York: Nichols, 1979. Pp. 240. $37.50. *JEL 79–1122*

Examines the development of the oil and gas industries in the Soviet Union, Poland, Romania, Hungary, the German Democratic Republic, Czechoslovakia, and Bulgaria from the end of World War II, and particularly for 1971–75. Projects supply and demand until 1980; discusses Soviet foreign trade in oil and gas for the period 1970–80; evaluates Soviet policy in the Middle East; and considers the prospects for oil and gas production and trade to 1985. Findings suggest that "the oil industry's performance is near target and this seems to indicate a 1980 performance at the lower end of the original Plan range." Notes that the Soviet Union has benefited from OPEC's strategy, since it encouraged joint ventures on Soviet territory and enabled the U.S.S.R. to increase its hard-currency economy. The author is currently a senior economist with a U.K. research and consultancy company. Selected bibliography; index.

SAWHILL, JOHN C., ed. *Energy conservation and public policy.* The American Assembly, Columbia University. Englewood Cliffs, N.J.: Prentice-Hall, Spectrum, 1979. Pp. vii, 259. $5.95, paper. *JEL 79–1123*

Eleven previously unpublished articles on improving energy efficiency, the expected adjustments in efficiency in response to market prices, and some of the public policy options available to supplement market forces, originally presented at the fifty-fifth American Assembly, held at Arden House in Harriman, N.Y., in November 1978. Following papers on the relation between energy and the economy and conservation activities outside the U.S., the authors discuss opportunities for improving efficiency in transportation, industry, and the residential sector. Also includes papers on: efficient electricity generation and pricing, the options available through recycling, the use of solar

energy, the role of government, and the part state and local governments can play. Finds in part that: (1) views on methods of energy conservation are extremely fragmented and disparate; (2) we have enough resources to last into the twenty-first century; and (3) no consensus exists on how best to utilize the known supplies. The editor is President of New York University. Index.

SCHURR, SAM H., ET AL. *Energy in America's future: The choices before us.* A study by the staff of the RFF National Energy Strategies Project. Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1979. Pp. xxvi, 555. $30.00, cloth; $10.95, paper. *JEL 79–1124*

An analysis of the technical, economic, institutional, environmental, health, and safety aspects of alternative energy prospects. Attempts to clarify barriers to the achievement of a workable energy policy, including: disagreement over fundamental facts, uncertainty about policy outcomes, confusion of short-term and long-term objectives, and lack of consensus over goals. The product of a three-year effort involving specialists in economics, public policy analysis, physics, engineering, public health, and medical sciences as authors and consultants. Assesses problems in measuring and forecasting energy consumption, prospects for energy supply, health and safety considerations, and the environmental impact of various energy technologies. Devotes one section to issues involved in making energy choices. Views the key energy problems of the present and future as political and institutional rather than technical or economic, but believes a consensus can be reached. The principal author is co-director of RFF's Center for Energy Policy Research. Primary co-authors, Joel Darmstadter, Harry Perry, William Ramsay, and Milton Russell, are associated with Resources for the Future. Name and subject indices.

SENECA, JOSEPH J. AND TAUSSIG, MICHAEL K. *Environmental economics.* Second edition. Englewood Cliffs, N.J.: Prentice-Hall, [1974] 1979. Pp. xiii, 379. $14.95. *JEL 79–1125*

Introductory text in environmental economics. The factual data has been brought up to date and new material appears on environmental law and its impact on environmental economics, the income distribution aspects of environmental problems, the operations of the Environmental Protection Agency, and the effectiveness of current regulations related to air and water quality. Requires elementary microeconomics. The authors are at Rutgers University. Index.

SINDEN, JOHN A. AND WORRELL, ALBERT C. *Unpriced values: Decisions without market prices.* New York; Chichester, England; Brisbane and Toronto: Wiley, Wiley-Interscience, 1979. Pp. xvi, 511. $25.95. *JEL 79–1126*

A textbook on valuation of benefits and costs of nonmarket goods. Part one discusses the nature of values, valuation and decision-making, and the application of basic economic principles of utility, disutility, and value to valuation. Part two examines available methods, while part three focuses on the nature of problems involving unpriced values and uses economic methods to analyze a possible national park as an example. Suitable for courses on advanced natural-resource economics, environmental planning, and recreation economics, as well as for policy makers and administrators. The authors are Senior Lecturer in Agricultural Economics at the University of New England, Australia, and Edwin W. Davis, Professor of Forest Policy at Yale University, respectively. Index.

SMITH, V. KERRY, ed. *Scarcity and growth reconsidered.* Baltimore and London: Johns Hopkins University Press for Resources for the Future, 1979. Pp. xvi, 298. $18.95, cloth; $6.95, paper. *JEL 79–1127*

Seven previously unpublished essays and related comments on the long-run importance and availability of natural resources for economic growth and well-being. Following an introduction on the background of these papers and their relation to earlier literature are two papers each on the role of natural resources in modelling economic activity (J. E. Stiglitz and Herman E. Daly) and the nature of physical constraints on resource availability (Donald A. Brobst and H. E. Goeller).

The last three papers focus on the measurement of the adequacy of resource stocks for maintaining economic well-being (Harold J. Barnett; Gardner M. Brown, Jr., and Barry Field; and Anthony C. Fisher). In a concluding summary essay, editor Smith and John Krutilla note in part that: (1) "while nonmarket institutions do offer a means for allocating resources, we cannot expect that they will provide the informational signals that are by-products of the exchange activities that a perfect market would" and (2) the literature is not clear on whether or not natural resources will ultimately be a limitational input. The editor is a Fellow at Resources for the Future. Index.

ZIMMERMANN, CHARLES F. *Uranium resources on federal lands.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xv, 326. *JEL 79–1128*

Examines the present system regarding disposal of uranium on federal lands which, as of 1 July 1975, accounted for 59 percent of the acreage held

for exploration and mining; assesses major factors influencing uranium prices and costs; and evaluates alternative systems for exploration, mining, and milling of uranium on federal land. Other topics discussed include: domestic nuclear capacity projections and quantities of uranium required per unit of capacity; the impact of Nuclear Regulatory Commission licensing requirements on production costs; geological analogies and discovery-rate models as well as current reserve characteristics; domestic price trends and market structure; imports, exports, and world market trends; and the use of an analytical model, which incorporates uncertainty, to compare the performance of different resource management systems under different price and cost scenarios. A conclusion is that "nuclear fission is unlikely to become a leading source of energy in the United States," but will instead serve as a "bridge to the future." The author, an agricultural economist and consultant at Foster Associates, Washington, D.C., believes that "the industry may be making a serious error in judgment by trying to preserve" the present system of appropriation of uranium-bearing land by the utility industry. Index.

See also: Book Numbers *JEL 79–0891, 79–0989, 79–0994, 79–1093, 79–1144*

730 Economic Geography

DIEM, AUBREY. *Western Europe: A geographical analysis.* New York; London; Sydney and Toronto: Wiley, 1979. Pp. xiii, 543. $24.95. *JEL 79–1129*

Geographical analysis of the trends of social and economic change since World War II of the 17 European nations associated with the West. Following an introduction to the physical, economic, and cultural characteristics of the four physiographic divisions of Western Europe, the author examines the population, transportation, industry, agriculture, energy, and tourism of each of the countries. Also provides a personal evaluation by the author on the changes and problems of the area since 1954. Includes numerous maps and photos. The author is at the University of Waterloo. Index.

800 Manpower; Labor; Population

WOOD, W. D. AND KUMAR, PRADEEP, eds. *The current industrial relations scene in Canada: 1979.* Kingston, Ont.: Industrial Relations Centre at Queen's University at Kingston, 1979. Pp. xiv, 695. $40.00, paper.

KUMAR, PRADEEP. *Canadian industrial relations information: Sources, technical notes and glossary.* Pp. viii, 166. $20.00, paper; $50.00, set. *JEL 79–1130*

Annual reference volume focusing on important developments, trends, issues, and their implications in the broad area of Canadian industrial relations. Organized into seven sections on the economy; manpower and labor markets; labor legislation and public policy; trade unionism, collective bargaining, wages, productivity, and labor costs; and a reference section; each section contains summary reviews and extensive statistical and other reference material from a wide variety of sources. Technical notes on data sources and methods used are given in the second volume. No index.

See also: Book Number *JEL 79–0871*

810 Manpower Training and Allocation; Labor Force and Supply

BLOCH, FARRELL E., ed. *Evaluating manpower training programs: Revisions on papers originally presented at the Conference on Evaluating Manpower Training Programs, Princeton University, May 1976.* A Research Annual. Research in Labor Economics, Supplement 1, 1979. Greenwich, Conn.: JAI Press, 1979. Pp. vii, 351. $15.00, individual; $29.50, institutions. *JEL 79–1131*

Ten previously unpublished papers plus comments on the evaluation of changes in earnings of participants in the manpower training programs. Examines the problems of comparing earnings of the participants in training programs with the earnings of a nonparticipating control group. Papers cover the selection of a sample size, the appropriateness of the control group, difficulties of modeling an evaluation study, evaluation of econometric analyses of the economic benefits of specific programs, and labor market displacement effects. Also includes analyses of Markov process models and the estimation of production functions in manpower programs. The editor is Assistant Professor of Economics, Princeton University. No index.

GRASSO, JOHN T. AND SHEA, JOHN R. *Vocational education and training: Impact on youth.* A Technical Report for the Carnegie Council on Policy Studies in Higher Education. Berkeley, Calif.: Carnegie Council on Policy Studies in Higher Education, 1979. Pp. xi, 230. *JEL 79–1132*

A study of the access to occupational education in high school and its impact on educational attainment, post high school training, labor market success, and psychological state. Analyzes data gener-

ated by the National Longitudinal Surveys (NLS) of the Department of Labor and the U.S. Bureau of the Census on (1) 5,000 young men between 14 and 24 years of age when interviewed in 1966 and (2) 5,000 young women of the same age when interviewed in 1968. Describes demographic characteristics of program participants; examines the relationship between curricular choice and occupational and educational goals; analyzes dropout rates, the relationship between high school curriculum and various measures of labor market success, and the impact of curriculum on reactions to work and other psychological outcomes; explores the benefits of vocational studies to disadvantaged or handicapped youth; and considers systemic effects of training. Major findings are (1) consistent labor market benefits of occupational training for young women, but not for young men, and (2) the satisfaction of at least psychological needs for young men, both immediately and in their first few years out of school. Includes recommendations for career counseling and encouragement of post–high-school, noncollegiate forms of training. Bibliography; no index.

NATIONAL COMMISSION ON EMPLOYMENT AND UNEMPLOYMENT STATISTICS. *Counting the labor force.* Washington, D.C.: U.S.G.P.O., 1979. Pp. xii, 312. Paper. *JEL 79–1133*

Report of a fourteen-month study analyzing the present labor force data system and offering recommendations to improve the accuracy and relevance of employment and unemployment statistics. Part one consists of a summary of the study's scope, recommendations, and costs of instituting changes. Part two discusses concepts underlying the present system and spells out the additional data needs of modern policy makers. Part three analyzes the collection and processing of national data, while part four appraises the present systems and suggests improvements in the production of state and local labor force statistics. Part five discusses the efficiency of the administration, presentation, and dissemination of labor force statistics and stresses the importance of insulation of statistical reporting from political pressure. Based on public hearings, 33 wide-ranging background studies, expert advice of statisticians and econometricians, and views expressed by various interest groups and professional organizations. The chairman of this nine-member Commission was Sar A. Levitan, Director, Center for Social Policy Studies, George Washington University. Index.

NORTHRUP, HERBERT R.; GARRISON, DOUGLAS F. AND ROSE, KAREN M. *Manpower in the retail pharmacy industry.* Manpower and Human Resources studies, no. 9. Philadelphia: University of Pennsylvania, Whatron School, Industrial Research Unit, 1979. Pp. xii, 152. $9.50, paper. *JEL 79–1134*

Describes the current work force of the retail pharmacy industry and examines the characteristics and workplace roles of managers, professional and nonprofessional workers. Also analyzes the impact of developments in health care, government programs, professional societies and trade associations, and unionization and other forces of change and considers future trends in the industry. Findings show that hospital settings are the fastest-growing workplace for pharmacists, but the pharmacist-entrepreneur is not likely to disappear. Argues that increased management education for retail-oriented pharmacists would provide greater opportunities for more "professional" pharmacy practice. Index.

WULF, DOUGLAS; DUNNING, BRUCE B. AND MYINT, THELMA. *Clients' experiences with vouchered on-the-job training in the Portland WIN program.* Project #538; BSSR: 9000-11. Washington, D.C.: Bureau of Social Science Research, 1979. Pp. xxi, 140. *JEL 79–1135*

Report and evaluation of the feasibility of incorporating vouchers into an on-the-job training (OJT) program as an option for clients; based on a test case carried out in conjunction with the existing work incentive (WIN) program in Portland, Oregon. Discusses the characteristics of the participants, their commitment to the voucher system and job search, and their training and post-training experience. Comparing 139 in regular OJT slots with 345 in the voucher system, the authors find that: (1) voucher clients had considerable difficulty in obtaining training positions; (2) those successful with the voucher system located more desirable and better paying jobs; and (3) drop-out rates and longer-term labor force participation and welfare dependency did not vary between groups. Information on the data base in appendices. No index.

See also: Book Numbers *JEL 79–1137, 79–1168*

820 LABOR MARKETS; PUBLIC POLICY

BORUS, MICHAEL E. *Measuring the impact of employment-related social programs: A primer on the evaluation of employment and training, vocational education, vocational rehabilitation, and other job-oriented programs.* Second edition. Kalamazoo, Michigan: W. E. Upjohn Institute for Employment Research, [1970] 1979. Pp. ix, 139. $3.50, paper. *JEL 79–1136*

Introduction to basic techniques and strategies involved in program evaluations of employment-

related social programs. Focuses on mechanics of evaluation and includes exercises at the end of each chapter. A considerably revised version of the earlier work *Measuring the Impact of Manpower Programs: A Primer* by the present author, who is Professor of Labor and Human Resources at the Ohio State University, and William R. Tash. No index.

DUNCAN, GREG J. AND MORGAN, JAMES N., eds. *Five thousand American families—Patterns of economic progress.* Volume 7. *Analyses of the first ten years of the Panel Study of Income Dynamics.* Contributions by RICHARD D. COE, *et al.* Ann Arbor: University of Michigan, Institute for Social Research, Survey Research Center, 1979. Pp. x, 383. $16.00. *JEL 79–1137*

Seven previously unpublished papers on a variety of subjects, bringing up to date and expanding work presented in earlier volumes. Topics include the economic burden of unemployment among heads of households; the determinants of the number of work hours of male heads of households; an empirical model of wage change; food stamp use among the poor in 1976 and over the four-year period 1973–76; measurement error in models of status attainment, which include as predictors young men's reports about parental traits; and dimensions of occupation. Presents a summary of other research and reproduces the questionnaire used in this tenth (1977) interviewing wave. Authors are Mary Corcoran, Martha S. Hill, James N. Morgan, Greg J. Duncan, and Richard D. Coe. No index.

GOTTMANN, JEAN, ET AL. *Terms of employment and urban concentration.* Questions for Debate: Economic and Social Issues of Our Time series. Isveimer Bulletin, no. 7. Naples: Institute for the Economic Development of Southern Italy, 1978. Pp. 58. Paper. *JEL 79–1138*

Reviews important trends in the terms and conditions of employment—(1) liberalization of the contract between employee and employer, (2) the reduction in work time, (3) an increase in non-manual labor, with the accompanying trend toward white-collar employment, and (4) with the necessary emphasis on the quality of manpower employed, improvement in working conditions. Concludes that new terms of employment, acting both as cause and effect, favor some dispersal, geographical deconcentration, the multiplication of specialized centers, "the current mutation of the functions of urban centres," and growing liberation of the individual. Consequently, the role of cities is in a process of change, as a large number of social and spacial institutions are crumbling or undergoing mutation. Includes an introduction, comments by members of the study committee, and a reply by the author, Professor of Geography, University of Oxford. No index.

KLEIN, LAWRENCE R. AND GHOZEIL, SUSAN. *A popularized version of 21 doctoral dissertations.* R & D Monograph 70. Washington, D.C.: U.S. Department of Labor, Employment and Training Administration, 1979. Pp. vii, 113. Paper. *JEL 79–1139*

Brief summaries presenting "the substance without the form" of 21 recent theses, supported by the U.S. Department of Labor, focusing on economic and sociopsychological analyses of the labor market and the labor force. Includes an introduction by the authors: Lawrence R. Klein, Adjunct Professor of Economics, University of Arizona; and Susan Ghozeil, Associate Director, Pima Alcoholism Consortium, Tucson. No index.

LEVITAN, SAR A. AND BELOUS, RICHARD S. *More than subsistence: Minimum wages for the working poor.* Policy Studies in Employment and Welfare, no. 34. Baltimore and London: Johns Hopkins University Press, 1979. Pp. x, 179. $11.50, cloth; $3.95, paper. *JEL 79–1140*

Examines the role and impact of the minimum wage in relation to the working poor and the welfare state. Traces the history of the wage floor in the United States; evaluates statistical and econometric research on the minimum wage and finds that "the methodology used in many wage floor studies appears to be flawed, and their conclusions are highly suspect." Examines the 1977 round of congressional amendments. Argues that "the minimum wage has been the most direct and comprehensive policy tool for improving the lot of the working poor" and that the negative spillovers are too frequently overstated; thus the income gains appear to be larger than the social costs. Argues that the minimum wage is tied up with the issue of welfare reform, since "a change in the income support system without a strong wage floor can tip the scales against work and result in higher welfare program costs." Index.

LOGUE, DENNIS E. *Legislative influence on corporate pension plans.* AEI Studies in Social Security and Retirement Policy, no. 234. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp.109. $3.75, paper. *JEL 79–1141*

Analyzes the benefits and costs of the private pension system to firms and their employees and focuses on the effects of the Employment Retirement Income Security Act of 1974 (ERISA) and

of changes in the Social Security system on private, industrial, defined benefit pension programs. Reviews the theory of pensions and their importance in employees' total compensation packages; traces trends in the components of private industrial pension plans; analyzes the impact of ERISA on corporate pension policies; and considers the integration of social security with private industrial pensions as well as congressional concern about private pension programs. Concludes that ERISA and rising social security benefits are likely to reduce future private pension fund coverage. The author is Associate Professor of Business Administration at the Amos Tuck School of Business Administration, Dartmouth College. No index.

OHIO STATE UNIVERSITY, COLLEGE OF ADMINISTRATIVE SCIENCE, CENTER FOR HUMAN RESOURCE RESEARCH. *The national longitudinal surveys: Handbook.* Revised January 1979. Columbus: Author, 1979. Pp. iv, 104. $.80, paper.

JEL 79–1142

Newly revised edition of the handbook to the National Longitudinal Surveys (NLS) of the Labor Market Experience [see *JEL no. 77–0236* for annotation of the 1976 revision]. Discusses the objectives of the surveys, the samples covered, the type of information collected, and the availability and cost of the several NLS data files; describes the layout of the computer tapes and the documentation and contains a bibliography of completed research on NLS data (1966–76). Includes information on the new panel on female and male youth, surveyed for the first time in 1979. Data have been brought up to date for 1979. No index.

OWEN, JOHN D. *Working hours: An economic analysis.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xiv, 206. $21.00.

JEL 79–1143

Investigation into the economic relation between work schedules and leisure. The first part looks at the scarcity of time and its constituents. Argues that the small growth in leisure time over the past several decades is due to the fact that the amount of time spent in working or quasi-working activities is determined in a trade-off situation: long working hours and spending nonwork time on commuting, household chores, *etc.*, provide a higher standard of living, but less leisure. Also contends that the inefficient use of time in the United States is the result of rigid work schedules maintained by employers. Part two considers the possibilities of alternative work schedules as a means of improving leisure times in particular, examines voluntary part-time employment, flex-time practices (where employees may vary the timing of their hours), and reduction of the standard work week. Finds in part that: (1) prime-aged Americans have less leisure than commonly thought; (2) the quality of consumption, household production, and work time have increased due to higher wages; and (3) "the most obvious way of reducing time pressures is to cut hours of work, since this could very likely increase leisure time." Technical material has been placed in several appendices. The author is Professor of Economics at Wayne State University. Bibliography; index.

RODBERG, LEONARD S. *Employment impact of the solar transition: A study prepared for the use of the subcommittee on energy.* Joint Committee Print. 96th Congress, 1st Session. Washington, D.C.: U.S.G.P.O., 1979. Pp. v, 49.

JEL 79–1144

Estimates the impact on employment and on fuel savings of widespread introduction of energy conservation and solar energy. Assumes a set of national goals to be achieved by the year 2000 and postulates substantial investment in conservation and solar energy over a 5-year period preceding 1985, with a constant level of investment thereafter. The author, Leonard S. Rodberg, Community Energy Project, Public Resource Center, Washington, D.C., projects that, for the year 1990, an annual investment (in 1978 dollars) of $65.6 billion will create 2.17 million jobs and will reduce consumption of nonrenewable fuels by 45 quadrillion BTU's. After netting out the jobs eliminated and jobs created in other industries by expenditure of funds saved, 2.9 million jobs will be created. No index.

STEIN, BRUNO. *Social security and the private pension system.* New York: Industrial Relations Counselors, 1979. Pp. vi, 41. Paper. *JEL 79–1145*

Focuses on the impact of social security on private pensions. Reviews the historical development of the private pension system and the Social Security System and discusses the bases of the relationship between them; examines the major provisions of the Employment Retirement Income Security Act (ERISA); discusses underfunding, extension of coverage, and inflation-proofing in the private system; analyzes the effects of higher social security payroll taxes and lower benefits on the private pension system; considers the consequences of the 1977 social security amendments for existing integrated plans; and discusses new issues raised by changing retirement ages. One conclusion is that "ERISA will discourage enrichment of defined benefit plans and encourage development of defined contribution types of plans, including supplementary thrift or profit sharing schemes." The

author is Professor of Economics, New York University. No index.

See also: Book Numbers *JEL 79–0891, 79–0975, 79–0978, 79–1090, 79–1112*

830 Trade Unions; Collective Bargaining; Labor–Management Relations

AARON, BENJAMIN; GRODIN, JOSEPH R. AND STERN, JAMES L., eds. *Public-sector bargaining.* Industrial Relations Research Association Series. Washington, D.C.: Bureau of National Affairs, 1979. Pp. vii, 327. Paper. *JEL 79–1146*

Nine previously unpublished papers on the past developments, key issues, and future trends of public-sector collective bargaining. Following papers on the extent of collective bargaining, unionism, and management organization for bargaining, are papers on: bargaining's impact on compensation; the dynamics of dispute resolution; and public-sector labor legislation. Also includes essays on: the judicial response to bargaining; public-sector labor relations in Canada; and the future of bargaining. Contributors include: John F. Burton, Jr.; James L. Stern; Milton Derber; Daniel J. B. Mitchell; Thomas A. Kochan; B. V. H. Schneider; Joseph R. Grodin; Shirley B. Goldenberg; and Benjamin Aaron. Topical index.

ANANABA, WOGU. *The trade union movement in Africa: Promise and performance.* Foreword by OMER BECU. New York: St. Martin's Press, 1979. Pp. xiii, 248. $19.95. *JEL 79–1147*

Focuses on the development and organization of trade unions in Africa since 1961, but includes brief discussions of events during the periods from 1939–45 and 1945–60. Part one surveys the "general trade union situation" by country in West, Eastern, Central, Southern, and North Africa; presents case studies of Lesotho and Liberia; and examines the continental trade union organizations of the African Regional Organization (AFRO), the All-African Trade Union Federation (AATUF), the African Trade Union Confederation (ATUC), and the Organisation of Trade Union Unity (OATUU). Part two assesses union activities, problems, and prospects, finding that "fragmentation, maladministration, indiscipline, abuse of office and undemocratic procedures are still the order of the day"; and that law and politics, which "violate international labour standards abound in most African states"; and that bona fide unions have ceased to exist in many countries. The author is former Director of Organization of the United Labour Congress of Nigeria and General Secretary of the Nigerian Association of Local Government Employees in Eastern Nigeria. Index.

BELLACE, JANICE R. AND BERKOWITZ, ALAN D. *The Landrum-Griffin Act: Twenty years of federal protection of union members' rights.* Assisted by BRUCE D. VAN DUSEN. Labor Relations and Public Policy Series, No. 19. Philadelphia: University of Pennsylvania, Wharton School, Industrial Research Unit, 1979. Pp. xiv, 363. $15.00, paper. *JEL 79–1148*

An evaluation of the efficacy of the Landrum-Griffin Act legislated in 1959 to assure the rights of the individual union members and to balance those rights with the institutional requirements of the union. Examines the provisions of and the issues arising from Title I: Bill of Rights; Title II: Union Members' Right to Information; Title III: Trusteeships; Title IV: Election Safeguards; and Title V: Fiduciary Obligations. Analyzes both the courts' position on various issues and also the role of the Department of Labor in enforcing the statute. Although the authors conclude that the Department of Labor has a "deplorable" record in the enforcement of the statute's provisions and recommend some amendments, they argue that the courts' decisions have been made at a high level and the "statutory scheme laid down in the Landrum-Griffin Act has withstood the test and time remarkably well." The authors are Assistant Professor of Legal Studies in the Wharton School and a law student at the University of Pennsylvania Law School. Index of cases.

INTERNATIONAL COUNCIL FOR THE QUALITY OF WORKING LIFE. *Working on the quality of working life: Developments in Europe.* International Series on the Quality of Working Life, Vol. 8. Boston; The Hague and London: Martinus Nijhoff, 1979. Pp. x, 380. $32.00. *JEL 79–1149*

Twenty-eight previously unpublished papers that provide information on the quality of working life activities in nine European countries (France, Holland, Italy, Norway, Switzerland, Sweden, West Germany, Scotland, and the United Kingdom). Focuses on various individual projects and their goals and approaches. In six parts: national programs and perspectives in six of the countries; production and technical units; administrative and office units; public service; issues related to trade unions; and off-site training programs. Max Elden, author of the introduction and conclusion, finds as a common feature that stands out in the case studies: employee participation in the planning and management of organizational change intended to improve the quality of life at work. No index.

JAPAN INSTITUTE OF LABOUR. *Labor unions and labor-management relations.* Japanese Industrial

Relations Series, No. 2. Tokyo: Author, 1979. Pp. 40. *JEL 79–1150*

Brief description of the organizational structure of Japanese labor unions, the historical development of the labor union movement, characteristics of labor-management relations, and legislation concerning labor-management relations. No index.

PERRINGS, CHARLES. *Black mineworkers in Central Africa: Industrial strategies and the evolution of an African proletariat in the copperbelt 1911–41.* New York: Holmes and Meier, Africana, 1979. Pp. xvii, 302. *JEL 79–1151*

A historical examination of the principal factors in the "proletarianization" of black workers in the copper mines of the Belgian Congo (now Zaïre) and Northern Rhodesia (now Zambia) from 1911–41, the first three decades of large-scale mining operations in the area. A revised doctoral dissertation, based on archival and interview work, the study is composed of two parts and focuses upon the labor requirements of capital and "the structural determinants of worker behaviour and perception" (and not the perception itself). The author, Lecturer in Economics at the National University of Lesotho, argues that "the training of labour meant its stabilization" and "there is little doubt that the stabilization was establishing the preconditions for proletarianization." Statistical appendices on copper prices and production. Bibliography; index.

PETTMAN, BARRIE O., ed. *Industrial democracy: A selected bibliography.* Bradford, England: MCB, 1979. Pp. vii, 95. *JEL 79–1152*

Bibliography of selected literature published during 1950–78, containing over 3900 references from 73 countries. Following two introductory sections on general and comparative material, titles are arranged by countries and subdivided into books and monographs, articles, theses, or government reports. The author is Director, International Institute of Social Economics and Lecturer in Social Economics and Industrial Relations, University of Hull, England. Author index.

RAWSON, D. W. *Unions and unionists in Australia.* Sydney: London and Boston: Allen and Unwin, 1978. Pp. 166. $22.50, cloth; $10.50, paper. *JEL 79–1153*

Describes and analyzes the current state of trade unionism in Australia. Concentrates on the political aspects of unionism, particularly on relations between unions and governments, special relations between some unions and the Australian Labor Party, and on probable future roles of trade unionism in Australia. The author is a Senior Fellow in the Research School of Social Sciences at Australian National University. Bibliography; index.

SCHREIBER, CAROL TROPP. *Changing places: Men and women in transitional occupations.* Cambridge, Mass., and London: MIT Press, 1979. Pp. xiv, 244. $15.00. *JEL 79–1154*

A systematic empirical inquiry into the movement of men and women into work situations previously occupied predominantly by members of the opposite sex. Evaluates the intersecting effects of different forms and magnitude of change on individual work lives. Based upon interviews in 1976 with 100 nonmanagement employees engaged in eight different kinds of jobs in one company. Using multiple regression analysis, presents a model of work satisfaction, which suggests a connection between stress and work satisfaction, since "New Type [new to jobs traditionally held by opposite sex] employees express more satisfaction with their work than Same Type [new to jobs formerly held by same sex] employees." An epilogue gives the "saga and structure" of the research approach and appendices reproduce research instruments. A revised doctoral dissertation. The author is Assistant Professor at the School of Organization and Management and the Department of Epidemiology and Public Health, Yale University. Bibliography; index.

840 DEMOGRAPHIC ECONOMICS

BURCHARDT, JOHN A. AND GERACI, VINCENT J. *Intercensal state and local population estimates: Methods, performance, and Texas applications.* Research Report 1978–4. Austin: Bureau of Business Research, University of Texas, 1979. Pp. v, 59. Paper. *JEL 79–1155*

Analysis of the six primary population estimation methods used by the Census Bureau in their annual estimates and their performance; the six are: vital rates method, component method II, composite method, ratio correlation method, administrative records method, and housing unit method. Summarizes the Census Bureau's tests of their performance at the state, county, and subcounty levels; finds that the methods vary in reliability depending on the region of the country, type of locality, and time period. A test is then done on Texas state and county data. The authors are Research Associate, and Faculty Associate and Assistant Professor of Economics, respectively, of the Bureau of Business Research of the University of Texas at Austin. No index.

MEHTA, B. C. *Regional population growth: A case study of Rajasthan.* Jaipur: Research Books, 1978. Pp. x, 315. Rs. 60. *JEL 79–1156*

Analyzes the relationships between various socioeconomic factors and population growth in the Indian state of Rajasthan. Focuses on the impact on population dynamics of regional and district-level differences within the state. Determines the correlates of fertility regulation and identifies policy instruments and targets. Utilizes stepwise regression techniques to estimate relevant impacts on various components of population change (urbanization, migration, mortality, fertility) and makes several projections of population growth. Finds a near "Malthusian situation" in Rajasthan and recommends "a critical minimum effort" to accelerate the pace of socioeconomic development. The author is Reader and Head of the Department of Economics at the University of Rajasthan, Jaipur, India. Bibliography; index.

MERRICK, THOMAS W. AND GRAHAM, DOUGLAS H. *Population and economic development in Brazil: 1800 to the present.* Baltimore and London: Johns Hopkins University Press, 1979. Pp. xviii, 385. $22.50. *JEL 79–1157*

Traces Brazilian demographic history over the past two centuries and examines its role in past and present economic development. Assesses the Brazilian position that population growth has not been an obstacle to development. Focuses on major trends and composition of the growth in population since 1800; slavery and European immigration; changes in the spatial distribution of population in the period 1778–1970; long-term trends in the growth and structure of the labor force; urban population growth and urban poverty; and the role of demographic factors in Brazilian economic planning. A principal conclusion related to recent Brazilian economic expansion is that the anti-natalist position "applies less in terms of macroeconomic growth objectives (increases in total and per capita product) than when development is defined as growth with distribution." The authors are Research Associate at Georgetown University and Associate Professor, Latin American Studies Program, Ohio State University, respectively. Index.

STARK, ODED. *Population and agricultural development: Selected relationships and possible planning uses.* Technical Paper No. 6. *Economic-demographic interactions in agricultural development: The case of rural-to-urban migration.* Rome: Food and Agriculture Organization of the United Nations, 1978. Pp. ix, 162. Paper. *JEL 79–1158*

Reissue of a Research Report formerly published by the David Horowitz Institute [see *JEL no. 79–0248* for previous annotation].

See also: Book Numbers *JEL 79–0919, 79–1014, 79–1097, 79–1171*

850 HUMAN CAPITAL

See also: Book Numbers *JEL 79–0920, 79–1132, 79–1160*

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 WELFARE, HEALTH, AND EDUCATION

CHIEN, ROBERT I., ed. *Issues in pharmaceutical economics.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. vii, 246. $17.95. *JEL 79–1159*

Fourteen previously unpublished papers and related comments on the pharmaceutical industry, originally presented at a series of seminars held at Northwestern University (1976) and UCLA (1977). The articles are in four sections: the facts and measurement of the pharmaceutical market, concentration, and supply and entry; pricing and profitability; the impact of government regulation on the research process; and the economic impact of regulation. Finds in part that: (1) "the drug industry has been competitive in the sense that the research-intensive drug companies are competing for dominance in different therapeutic areas"; and (2) "government policies requiring excess proof of efficacy and safety have raised the cost and uncertainties of research" inhibiting participation by smaller companies, and have lowered the rate of return on research to below its opportunity costs. The editor is Associate Professor of Marketing at Roosevelt University, Chicago. Selected bibliography; no index.

COHN, ELCHANAN. *The economics of education.* Revised edition. Cambridge, Mass.: Harper & Row, Ballinger, 1979. Pp. xix, 453. *JEL 79–1160*

Text that surveys the issues and literature of the economics of education, covering the economic value of education, resource allocation, and educational finance and planning. In this edition, the author has brought statistical material up to date and findings from numerous recent studies in the field have been incorporated. Chapters now include literature guides, and the bibliography has been expanded to more than 90 pages. [See *JEL*

no. 73-0545 for previous annotation.] The author is Professor of Economics at the University of South Carolina. Bibliography; index.

CULLIS, JOHN G. AND WEST, PETER A. *The economics of health: An introduction.* New York: New York University Press, 1979. Pp. ix, 309. $18.50. *JEL 79-1161*

Text in health economics geared to students of economics and social sciences in general and of health care sciences in particular, emphasizing the concerns of developed countries. In five parts: the nature of health care as an economic good; theoretical and empirical aspects of the demand for health care; the theory of health care supply, particularly the estimation of costs; problems in applying cost-benefit techniques to health care, and the public policy issues of health care. Chapters include a list of outside readings. Background in first-year economic principles required. J. G. Cullis is Lecturer in Economics, University of Bath, England, and P. A. West is Lecturer in Health Economics in the Department of Community Medicine, St. Thomas Hospital, London. Author and subject indices.

DERTHICK, MARTHA. *Policymaking for social security.* Washington, D.C.: Brookings Institution, 1979. Pp. xiv, 446. $11.95, cloth; $4.95, paper. *JEL 79-1162*

A study of the political foundations of social security, inquiring particularly into the causes of the "low level of conflict and dissent" in the program. Part one focuses on the formal structure, the participants, and the process of policymaking, offering as a possible explanation that "policy has been made by a relatively constricted and autonomous set of actors with a strong sense of proprietorship in the program." Part two examines the major policy choices and the main features of the basic program of cash benefits for the elderly and the surviving dependents of deceased workers (OASI). Here "ambiguity, inconsistency, obscurity, and paradox" are partial explanations. Part three explores the politics of expansion—the addition of coverage for the disabled, Medicare, and a quantum increase in cash benefits—which proved contentious—and the author, director of the Governmental Studies program at the Brookings Institution, concludes that "there has not been 'enough' politics in social security"; that decisions should be more sensitive to differences of interest and opinion; and that visibility of costs would compel choice. Index.

EGDAHL, RICHARD H. AND WALSH, DIANA CHAPMAN, eds. *Health services and health hazards: The employee's need to know.* Springer Series on Industry and Health Care, no. 4. New York: Springer-Verlag, 1978. Pp. viii, 184. *JEL 79-1163*

Focuses on three central topics resulting from recent legal events pertinent to health care—physician advertising, Health Maintenance Organization (HMO) marketing, and information about occupational health hazards. In two parts. Part one, written by Diana Chapman Walsh, discusses the issues of information, communication, access, quality, cost, and industry's role. Part two consists of thirteen background papers (edited and condensed) originally given at a conference in Boston in November 1977, entitled "Employee and Employer Decisions about Health: Informational Issues." No index.

EGDAHL, RICHARD H. AND WALSH, DIANA CHAPMAN, eds. *Industry and HMOs: A natural alliance.* Springer Series on Industry and Health Care, no. 5. New York: Springer-Verlag, 1978. Pp. viii, 117. *JEL 79-1164*

Five previously unpublished papers assessing the current state of Health Maintenance Organization (HMO) development and industry's possible role therein. Discusses corporate goals and strategies in providing health care to employees; describes major HMO types and assesses alternative models available to sponsoring companies; examines principal legal obstacles; and considers issues for the future. Appendices summarize events at the National HMO Conference convened by the Department of Health, Education, and Welfare in March 1978; the Bay State Health Care Foundation Hearings conducted by the Massachusetts Division of Insurance in the summer of 1978; and the National Conference and Workshop on the fee-for-service type in IPA (individual practice association) HMO—held by the Rocky Mountain HMO in Aspen, Colorado, in September 1978. No index.

GAFFNEY, JOHN C., ed. *Profile of medical practice, 1978.* Revised edition. Monroe, Wisc.: American Medical Association, Center for Health Services Research and Development, 1979. Pp. xiii, 283. Paper. *JEL 79-1165*

Seventh annual edition of research articles on the economics of medical practice in the United States, using data derived from the *Periodic Survey of Physicians* (PSP). Part one consists of five papers on patterns of medical practice; part two offers five papers about current research on health services; part three is composed of selected tabulations on physician manpower and characteristics of medical practice. Includes a chapter on the design and methods of the PSP. Index.

PEZZULLO, THOMAS R. AND BRITTINGHAM, BARBARA E., eds. *Salary equity: Detecting sex bias in salaries among college and university professors.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. x, 162. $15.95. *JEL 79-1166*

Eleven previously unpublished essays using multiple linear regression analysis to study pay equity in post-secondary institutions. Part one focuses on the use of regression analysis in modeling faculty salaries, and part two consists of five case studies on pay equity. The last part comprises two dissenting papers on the appropriateness of regression analysis, the appropriate applications, and the incompleteness of the statistical method in getting at several idiosyncratic determiners of salary differences. Editorial comments preface each paper. The editors are Associate Professors of Education at the University of Rhode Island. No index.

RUSSELL, LOUISE B. *Technology in hospitals: Medical advances and their diffusion.* Studies in Social Economics. Washington, D.C.: Brookings Institution, 1979. Pp. 180. $11.95, cloth; $4.95, paper. *JEL 79-1167*

An investigation of new hospital technologies of the last 25 years. Case studies of intensive care, respiratory therapy, diagnostic radioisotopes, the electroencephalograph, open-heart surgery, cobalt therapy, and renal dialysis examine the purpose and use of the technology, its history, the kinds and amounts of resources employed, and the costs and benefits for patients. A statistical analysis focuses on the distribution of the technology among hospitals and explanation of that distribution and diffusion. Includes a chapter on the medical technology policies of the United States, Sweden, Great Britain, and France and a background chapter on the metropolitan hospitals on which the analyses are based. Evidence from the case studies indicates that " in the presence of extensive third party payment, investment in a technology will continue until the benefit from any further investment is zero." The author, a senior fellow in the Brookings Economic Studies program, concludes with a review of policies to limit resources available to medical care. Index.

SCHEFFLER, RICHARD M., ed. *Research in health economics: A research annual.* Volume 1. Greenwich, Conn.: JAI Press, 1979. Pp. ix, 401. $28.50, institutions; $14.50, individuals. *JEL 79-1168*

Nine previously unpublished papers on various areas in the field of health manpower economics. The various essays look at analytical problems in making health manpower policy, production functions for new health practitioners, health manpower problems in rural areas, and the specialty choice by physicians. Also includes papers on: state control and responsibility in manpower policy; spatial distribution of physicians and their pricing policy; factors affecting nurses' wages in hospitals; a model for the market for nurses; and the allocation of health manpower to maximize the health status of the population. The editor is a member of the Department of Economics, George Washington University. No index.

SCHMITT, BERNARD A. *Protein, calories, and development: Nutritional variables in the economics of developing countries.* Foreword by E. RAY CANTERBERY. Westview Special Studies in Social, Political, and Economic Development. Boulder: Westview Press, 1979. Pp. xxi, 224. $17.50. *JEL 79-1169*

Analyzes the interaction of nutrition and economics and develops the concept of the "cyclonutritional spiral" to describe the "direct relationship between the nutritional status of agricultural labor (as a form of human capital) and the production level of various agricultural commodities in the developing countries." Finds both caloric and protein consumption to be important limiting factors of agricultural production. Surveys food production in 90 developing nations; discusses human protein and caloric requirements; examines the distribution of major agricultural commodities; forecasts food production for 1985 on a country and commodity basis; explores policy alternatives; and concludes that "conditions [apparently based on domestic production only, excluding trade] in nutritionally deficient countries [are] unlikely to improve, on average, between the present and the mid-1980's." Revised doctoral dissertation. The author is an economist with the U.S. Congress Joint Committee on Taxation. Selected bibliography; index.

SLOAN, FRANK A. *The geographic distribution of nurses and public policy.* Health Manpower References. DHEW Publication no. (HRA) 75-53. Bethesda, Md.: U. S. Department of Health, Education, and Welfare, Public Health Service, Health Resources Administration, Division of Nursing, 1975. Pp. ix, 214. $2.20, paper. *JEL 79-1170*

Designed to assist in the development of a strategy to attract nurses to underserved areas; consists of nine chapters, each reporting research sponsored by the Division of Nursing. Reviews the literature on incentives; assesses four alternative measures of the geographic distribution of nursing services; and analyzes the data from the *Survey of Hospital Directors of Nursing* (1973) and the *Survey of Registered Nurses* (1973), on turnover,

nurse mobility patterns, financial and nonfinancial incentives, and determinants of nurse retention. Authors include Roger Blair, David Kaserman, Richard Schaeffer, Richard Elnicki, and Frank Sloan, Associate Professor of Economics and Community Health and Family Medicine, University of Florida. No index.

VISCUSI, W. KIP. *Welfare of the elderly: An economic analysis and policy prescription.* New York; Chichester, England; Brisbane and Toronto: Wiley, Wiley-Interscience, 1979. Pp. 251. $18.95. *JEL 79–1171*

Focuses on the impact of government policy on the welfare of the elderly and analyzes policy and program changes that might improve elderly welfare with the same expenditure of resources. Examines demographic characteristics of the elderly; considers the conceptual issues of why and how to aid the elderly; and evaluates the present mix of policies and incentives they create, in particular social security and pensions, employment, and in-kind assistance. Concludes with a restatement of "principles for effective policy," which emphasize policies that affect people in their pre-elderly years, *e.g.*, improved medical care in middle age and a subsidy scheme for individual savings for old age. Proposes elimination of means and residence tests, revision of earnings tests, and some revisions in the financing of social security. The author is a Research Associate with the National Bureau of Economic Research and Assistant Professor of Economics at Northwestern University. Index.

WALSH, DIANA CHAPMAN AND EGDAHL, RICHARD H. *Payer, provider, consumer: Industry confronts health care costs.* Springer Series on Industry and Health Care, no. 1. New York and Berlin: Springer-Verlag, 1977. Pp. v, 117. Paper. *JEL 79–1172*

First in a series of monographs on the current and potential future role of private industry (both management and labor) as a financer, provider, and consumer of health care services. Focusing on the central theme that "industry is a key participant in the health sector," examines the relationship of employment-related financing to elevated demand and rising costs; the influence on industry-sponsored health programs of OSHA's mandate for specific environmental standards and medical surveillance of workers; and the role of industry in health planning, controlling costs (particularly in hospitals), and dispensing information. Briefly raises the issue of rationing health services either by the floor–ceiling concept or by the view that all medical services are essential; considers the question of who can most cost-effectively manage the delivery of health services in the future—the private sector or government. Data come largely from two different conferences and a partial review of recent literature. Annotated bibliography; no index.

WERNER, JACK L. AND LEOPOLD, JACQUELINE R., eds. *Reference data on socioeconomic issues of health, 1978.* Monroe, Wis.: American Medical Association, Center for Health Services Research & Development, 1978. Pp. xiv, 243. Paper. *JEL 79–1173*

Seventh annual edition of reference guide "for use by health professionals, policy makers, researchers and journalists," containing in the first half seven previously unpublished papers on current topics such as emergency medical services for trauma patients, the impact of certificate of need laws, Canadian Health care, measuring the relative quality of care, foreign medical graduates in U.S. educational programs, location choice incentives, and a microanalytic look at physician migration decisions. The second half of the book consists of selected socioeconomic data on health characteristics of the U.S. population for selected years 1950 to 1977. Index.

YETT, DONALD E., ET AL. *A forecasting and policy simulation model of the health care sector: The HRRC prototype microeconometric model.* Human Resources Research Center Monograph Series, no. 2. Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xiv, 204. $19.95. *JEL 79–1174*

Description of the University of Southern California's Human Resources Research Center Prototype Microeconometric Model of the U.S. health care system. Focuses on its development and use as a tool for forecasting and evaluating policy alternatives. A chapter is devoted to each of five submodels characterizing the population of consumers of medical services, the population of physicians, quantities and prices of physician services, quantities and prices of hospital services, and the supply of nonphysician services. Interactions of the various submodels are governed by demand and supply relations and numerous feedback and other connecting mechanisms. Includes discussion of model evaluation, potential uses, and strategies for further development. Bibliography; index.

See also: Book Numbers *JEL 79–1112, 79–1136, 79–1137, 79–1145*

920 CONSUMER ECONOMICS

VREELAND, RICHARD C. *Become financially independent: An investment plan that really works.*

Englewood Cliffs, N.J.: Prentice-Hall, 1979. Pp. xv, 320. $11.95, cloth; $5.95, paper. *JEL 79–1175*

Handbook to developing and following a "sound money management plan." Discusses saving, insurance, an investment dwelling, gold and silver, rural land, the stock market, and diamonds. The author is Professor at the University of Southern Mississippi, Hattiesburg. Index.

See also: Book Numbers *JEL 79–0888, 79–1143.*

930 Urban Economics

BRYCE, HERRINGTON J., ed. *Revitalizing cities.* The Urban Roundtable Series. Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xvii, 298. $23.95. *JEL 79–1176*

Fifteen papers (one an excerpt from previously published material) analyzing problems facing cities and offering solutions. Topics include expanding and measuring employment, residential reinvestment in the city, race and poverty, financing and distribution of police and educational services, creating order in city schools, and the taxpayers' revolt. The editor is Vice President of the Academy for Contemporary Problems in Washington, D.C. Index.

FEDERAL HOME LOAN BANK OF SAN FRANCISCO. *Urban housing: Proceedings of the Fourth Annual Conference, December 7–8, 1978, San Francisco, California.* San Francisco: Federal Home Loan Bank of San Francisco, 1979. Pp. 339. $6.00, paper. *JEL 79–1177*

Twelve previously unpublished papers and related comments, written by economists, bank executives, government regulators and officials, and other academic authorities in the field of urban housing. In three parts: the dynamics of the housing markets, including the stock of housing, neighborhood deterioration, and regional variation; financial aspects urban housing from the lender's perspective; and papers on inner-city housing markets, housing rehabilitation, and the role of government. No index.

GREBLER, LEO AND MITTELBACH, FRANK G. *The inflation of house prices: Its extent, causes, and consequences.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xiv, 241. $25.00. *JEL 79–1178*

Examines rising prices for single-family houses, in the U.S., during the 1970's, with parts of the study focusing on California. Covers the record of price changes between the late 1960's and 1977; an analysis of recent homebuyers, which includes a review of the appearance of speculative activity in California, and the results of a sample survey of 1975 and 1977 purchasers in two California counties; a general explanation of the market forces at work during the period; a specific national model of home prices and price changes from 1968 to 1977; and an evaluation of the effects of and adjustments to this market activity, including estimation of which groups have benefited or suffered due to the surge in house prices. Quantitative analysis suggests "permanent income and the increase in the general price level are prominent variables explaining home prices and their rates of change," and prognostications include the belief that disproportionate price increases could become a more continuous feature of the market if there is a resurgence of inflation and the public's concern over its containment. The authors are Emeritus Professor of Real Estate and Urban Land Economics and Professor of Management and Urban Planning and Director of the housing, real estate, and urban land studies program, respectively, at the University of California at Los Angeles. Index.

HARRIS, NIGEL. *Economic development, cities and planning: The case of Bombay.* Bombay, Oxford and New York: Oxford University Press, 1978. Pp. vi, Irregular. $8.95. *JEL 79–1179*

Examines the development of Bombay's economy and its importance to the economic development of India, and indicates the general role of cities in the development process. Summarizes the city's evolution from the eighteenth to the twentieth centuries, examines its modern development, discusses various problems and planning responses, investigates the issue of decentralization and a proposal for a second city of Bombay across the harbor, and considers various planning topics. Argues that the plan for Greater Bombay should lay out the strategy for maximizing the contribution to national economic development; and the core of the plan should be the control of investment, taking into account the tasks laid upon the city by the national plan, and problems of employment and its distribution within the municipal or metropolitan area. Index.

MAYES, DAVID G. *The property boom: The effects of building society behavior on house prices.* Oxford: Martin Robertson, 1979. Pp. vi, 146. £8.95. *JEL 79–1180*

Examines the inflation in prices of owner-occupied housing in the United Kingdom during the 1970's, investigating arguments that the behavior of building societies was the prime cause of the inflation and the building societies' contention that their increased lending was only a response to in-

creased demand. Specifies a model to explain the interrelatedness of the housing market, the housing finance market, and the building society savings market and argues from the estimates that building societies' behavior was not primarily responsible for the dramatic rise in U.K. housing prices in the 1970's. Also argues that government can counteract price reactions to building society lending. The author Lecturer in Economic and Social Statistics, University of Exeter. Index.

SEGAL, DAVID, ed. *The economics of neighborhood.* Studies in Urban Economics. New York; San Francisco and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xiii, 296. $27.50. *JEL 79–1181*

Eleven previously unpublished papers on integrating the notion of a neighborhood into urban economics and policy making by analyzing the neighborhood as a "good" with a supply, demand, and equilibrium outcomes. The first four essays deal with models on the determinants of neighborhood demand in Pittsburgh; St. Louis; Wilmington, Delaware; and Washington, D.C. 1962–72; three papers present models of the supply side of neighborhoods and four remaining chapters consider the price outcomes and quantity aspects of neighborhoods in the equilibrium framework. The editor is a member of the Department of City and Regional Planning, Harvard University, and the Department of Economics, Oberlin College. Index.

TOBIN, GARY A., ed. *The changing structure of the city: What happened to the urban crisis.* Urban Affairs Annual Reviews, Volume 16. Beverly Hills and London: Sage, 1979. Pp. 320. *JEL 79–1182*

Fourteen original essays by public officials, planners, and academics in political science, social work, urban planning, and urban design. In two parts, distinguishing between problems *of* the city concerning local management and problems centered *in* the city. In the latter group the essays focus on the key factors in the urban crisis—poverty and race—and assess the programs of the 1960's, survey the changing structure of the urban environment over the past decade, and suggest a prognosis for the near future. Recurrent themes include (1) "the initial absence of commitment on some issues, even during the 1960's," with the result that conditions that created the urban crisis have changed very little, (2) the failure of the federal government to formulate a sufficiently comprehensive policy framework with which to deal with urban problems, and (3) retreat from a wide variety of programs. In the introduction, the editor, Assistant Professor in the Urban Studies Program at Washington University, St. Louis, argues that "until we seriously address the basic issue of widespread poverty among the minorities who are concentrated in our urban centers, the potential for another period of violence, disruption, and disorder in our cities remains very strong." No index.

TOLLEY, GEORGE S., GRAVES, PHILIP E. AND GARDNER, JOHN L. *Urban growth policy in a market economy.* Contributions by DONALD R. HAURIN, *et al.* Studies in Urban Economics. New York and London: Harcourt Brace Jovanovich, Academic Press, 1979. Pp. xii, 220. $16.50. *JEL 79–1183*

Fourteen previously unpublished papers by economists and urban experts consider costs and benefits of city size restriction policies. The first part looks at the framework used for analysis, while parts two and three consider scale economies and environmental externalities. Argues that in determining optimal city size, the externalities should be internalized. Finds in part that: relatively substantial alterations of city size to internalize the externalities result in relatively small national income loss, and the cornerstone of any population distribution policy could be the elimination of "adverse population distribution effects of existing institutions and policies." Includes contributions by: J. Vernon Henderson, Oded Izraeli, Barton Smith, and Peter Zadrozny. Index.

See also: Book Numbers *JEL 79–0991, 79–1138*

940 REGIONAL ECONOMICS

MCKENZIE, RICHARD B. *Restrictions on business mobility: A study in political rhetoric and economic reality.* AEI Studies in Economic Policy, no. 235. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 61. $3.25, paper. *JEL 79–1184*

Examines the various legislative proposals to restrict business movements, particularly from the snowbelt to the sunbelt, and assesses the long-run consequences of restrictions on business mobility. Argues that "proposed restrictions . . . would retard the economic development of both the South and the North, . . . would slow the growth of national income, reduce the rise in real wage rates, contribute to inflation, increase unemployment, and reduce the social mobility of workers." The author is professor of economics at Clemson University. No index.

See also: Book Numbers *JEL 79–1023, 79–1084*

Related Disciplines

Eckes, Alfred E., Jr. *The United States and the global struggle for minerals.* Austin and London: University of Texas Press, 1979. Pp. xi, 353. $18.95. *JEL 79–1185*

Explores the impact of natural resource considerations on American foreign relations between World War I and the early 1960's and argues that "national competition for mineral resources underlay twentieth century international relations." The study focuses on industrial materials, with the exclusion of energy (including atomic power) and agricultural commodities, and rests primarily on official documents, many previously unavailable, and interviews. Concludes that, "however mistaken and shortsighted official policies sometimes seemed, American commitment to the principle of equal access, its vigorous opposition to autarkic solutions, and its support for international institutions and collective security undoubtedly contributed to the evolution of a stable and bountiful international order after World War II." The author is Adjunct Associate Professor of History at Ohio State University. Bibliography; index.

Goldfrank, Walter L., ed. *The world-system of capitalism: Past and present.* Political Economy of the World-System Annuals, vol. 2. Beverly Hills and London: Sage, 1979. Pp. 312. $18.50, cloth; $8.95, paper. *JEL 79–1186*

Twelve previously unpublished papers by sociologists and other social scientists on world capitalism viewed from a "world-systems perspective," originally presented at the second annual Political Economy of the World-System spring conference at the University of California, Santa Cruz, 29–31 March 1978. The world-systems view, which is opposed to the ahistorical approach, draws on various strands in the history of social science, including the Braudel and *Annales* school; the historical economics of Max Weber, Joseph Karl Polanyi; Schumpeter, and the Marxism of Lenin and Mao Tse-tung; the anticolonial sociology of G. Balandier; and the Third World perspectives of the "dependency" theorists. In five parts: issues in the world-systems theory; development in the core of seventeenth-century northwest Europe; development of the core in twentieth-century United States; resistence and incorporation in the periphery of the capitalist world-economy; and transformations in the twentieth-century periphery, discussing China, Viet Nam, and South Africa. The editor is Associate Professor of Sociology and Director of the Interdisciplinary Graduate Program in Sociology at the University of California, Santa Cruz. No index.

Holtz, Herman. *Government contracts: Proposalmanship and winning strategies.* New York and London: Plenum Press, 1979. Pp. xiv, 288. $19.50. *JEL 79–1187*

Handbook designed to instruct businessmen in the preparation of proposals for government contracts. Outlines relevant facts of "the world's biggest customer" and suggests strategies for good "proposalmanship." The author is a government marketing consultant, Silver Spring, Maryland. Index.

Kasaian, John J. *The pocket dictionary of legal words.* Garden City, N.Y.: Doubleday, 1979. Pp. 179. $2.95 paper. *JEL 79–1188*

Dictionary containing over 2500 legal terms aimed at the layman "exposed to the complex and often bewildering vocabulary of the lawyer." Lists of common-law crimes and Latin prefixes and suffixes are in an appendices. No index.

Lomask, Milton. *Aaron Burr: The years from Princeton to Vice President, 1756–1805.* New York: Farrar, Straus & Giroux; Toronto: McGraw-Hill Ryerson, 1979. Pp. xiii, 443. $17.50. *JEL 79–1189*

First of a two-volume biography of Aaron Burr, from the time of his birth on 6 February 1756, in Newark, New Jersey, to his election as Vice-president in the Jefferson Administration, the "tragedy at Weehawken"—the duel between Burr and Alexander Hamilton on 11 July 1804, and Burr's resignation before the Senate. Bibliography; index.

Mezey, Michael L. *Comparative legislatures.* Consortium for Comparative Legislative Studies Series. Durham, N.C.: Duke University Press, 1979. Pp. xiv, 317. $17.75. *JEL 79–1190*

Examines legislative bodies and classifies them as oriented to policy making, representation, or system maintenance. Based on surveys of articles, papers, and monographs; focuses on the popularly-elected lower houses but also including the Senates of the United States, Chile, Venezuela. The author is Professor and Chairman, Department of Political Science, DePaul University. Index.

Moore, David R. *Islanders and aborigines at Cape York: An ethnographic reconstruction based on the 1848–1850 'Rattlesnake' journals of O.W. Brierly and information he obtained from Barbara Thompson.* Atlantic Highlands, N.J.: Humanities Press; Canberra: Australian Institute of Aboriginal Studies, 1979. Pp. xii, 340. $19.50, cloth; $13.00, paper. *JEL 79–1191*

Following a historical introduction to the Cape York area of the South Pacific (near Australia), and brief biographies of O. W. Brierly and Barbara Thompson, the text reprints the material from Brierly's journals that has any ethnographical relevance to the aboriginal tribes in this area. Also reprints the reports of W. T. Kennett and F. C. Jagg from the Somerset settlement submitted to the Society for the Propagation of the Gospel in the late 1860's. Closes with a commentary that compares the Brierly information, as systematized by the author, with that gathered by later investigators. Provides some notes on the prehistory of the area. Bibliography; glossary; index.

NEWLAND, KATHLEEN. *The sisterhood of man.* New York and London: Norton, Worldwatch Institute, 1979. Pp. xi, 242. $12.95, cloth; $3.95, paper. *JEL 79–1192*

Examines, within a world-wide perspective, the important problems related to sex discrimination in law, education, health, the news media, politics, work, and family life. Reviews the forces of change, assesses the progress made toward equality for women around the world, and considers its impact on social and economic issues. The author is a Senior Researcher at the Worldwatch Institute in Washington, D.C. Selected readings; index.

NOVAK, MICHAEL, ed. *Capitalism and socialism: A theological inquiry.* A conference on Philosophy, Religion, and Public Policy. AEI Symposia, no. 79D. Washington D.C.: American Enterprise Institute for Public Policy Research, 1979. Pp. 193. *JEL 79–1193*

Ten previously unpublished papers by social scientists, and related discussions on some theological concepts basic to both socialism and capitalism (*e.g.*, utopianism, the future, liberty, discipline, fellowship, justice, *etc.*), originally presented at a conference co-sponsored by the AEI and the Department of Religion at Syracuse University, held on July 9 to 16, 1978, at the Airlie House in Warrenton, Virginia. Contains two papers by Irving Kristol (on spiritual roots of the two systems and on disaffection from capitalism); two by Seymour Martin Lipset ("American Exceptionalism" and on religion in politics), and two by Peter Berger (on empirical facts and an ethical assessment of the systems). Also includes: Michael Novak on "Seven Theological Facets"; Muhammad Abdul-Rauf on Islamic thought on economics; Ben J. Wattenberg on the success of the American system; and Penn Kembel on a social democratic view. The editor is a resident scholar at the AEI. Bibliography; no index.

PEACE, ADRIAN J. *Choice, class and conflict: A study of southern Nigerian factory workers.* Humanities Studies in African Political Economy, no. 1. Atlantic Highlands, N.J.: Humanities Press, 1979. Pp. xv, 204. $37.50. *JEL 79–1194*

A social anthropological study of young southern Nigerian factory workers employed on the Ikeja Industrial Estate and residing in the modern urban settlement of Agege on the outskirts of metropolitan Lagos. Focuses on the circumstances under which the workers come to town, the interpersonal relations they develop there, their efforts to improve their living and working conditions, the organization and efficacy of their trade unions, and their political status in relation to their environment. Based on "methodologically eclectic" research conducted between August 1970 and December 1971. Concludes with a discussion of the generalized hostility toward the political order and the major industrial and political disputes of 1971; the preface summarizes the government's subsequent reform of the labor movement. The author is Lecturer in the Department of Anthropology, University of Adelaide. Bibliography; index.

ROBINSON, ABRAHAM. *Selected papers of Abraham Robinson.* Volume 2. *Non-standard analysis and philosophy.* Edited by W. A. J. LUXEMBURG AND S. KORNER. New Haven and London: Yale University Press, 1979. Pp. xiv, 582. $40.00. *JEL 79–1195*

Second volume of a three-volume collection of the published writings of the late mathematician Abraham Robinson (1918–74). The first section includes 30 papers on infinitesimals (or "nonstandard analysis") and mathematical analysis, and the second section contains six papers on philosophy, particularly the philosophy of mathematics. Robinson was Sterling Professor of Mathematics at Yale University at the time of his death. Bibliography of his works; no index.

SCHRIJVER, A., ed. *Packing and covering in combinatorics.* Mathematical Centre Tracts, no. 106. Amsterdam: Mathematisch Centrum, 1979. Pp. 313. Dfl. 38,–, paper. *JEL 79–1196*

Thirteen previously unpublished papers by eleven Dutch mathematicians on a number of aspects of combinatorial mathematics and graph theory considered from the point of view of packing and covering problems. Topics include the packing of code-words, sphere-packings in Euclidean space and other geometrical packings, the packing and covering of subsets by subsets, packing and covering as optimization problems, and eigenvalue methods for solving packing and covering problems. Papers attempt to treat classical theory

as well as recent results. Papers based on lectures presented at a conference organized by the (Netherlands) Mathematical Centre in June 1978. Author and subject indices.

SECHREST, LEE, ET AL., eds. *Evaluation studies: Review annual.* Volume 4. Beverly Hills and London: Sage, 1979. Pp. 766. $32.50. *JEL 79–1197*

Forty-five selected works (eight previously unpublished) involving the methodological and technical issues of program evaluations in various social sciences. Six parts: theory and philosophy of program evaluation (8 papers); alternative strategies and methodologies (8 papers); the technologies (selection, management of research personnel, measurement problems, *etc.*) of evaluation (7 papers); evaluation studies (12 papers); unanticipated effects of intervention (5 papers); and the use of the research findings (5 papers). Co-editors, all psychologists, include Stephen G. West, Melinda A. Phillips, Robin Redner, and William Yeaton. No index.

SMITH, JOEL AND MUSOLF, LLOYD D., eds. *Legislatures in development: Dynamics of change in new and old states.* Publications of the Consortium for Comparative Legislative Studies. Durham, N.C.: Duke University Press, 1979. Pp. xvi, 407. $19.75. *JEL 79–1198*

Thirteen previously unpublished papers by political scientists and sociologists on role of legislatures in developing countries in the developmental process, most originally presented at a conference held on 11–15 August 1975 at Carmel, California. In three Parts: Part one focuses on the features of larger systems that influence the existence of the legislature, and parts two and three examine the consequences of legislative action and inaction. Contains studies of the "vulnerability" of legislatures in Thailand, Chile, and Africa, and the "resilience" of legislatures in Malaysia, Kenya, India, and Spain. Finds in part that although legislatures are not the prime movers in the political process; legislatures are not inconsequential in bargaining and linkage arrangements; and further, the instability of many developing countries mandates that no political institution can be "written off." J. Smith is Professor of Sociology at Duke University and L. D. Musolf is Professor of Political Science and Director, Institute of Governmental Affairs, University of California, Davis. Index.

STEPHENSON, GEOFFREY M. AND BROTHERTON, CHRISTOPHER J., eds. *Industrial relations: A social psychological approach.* Chichester, England; New York; Brisbane and Toronto: Wiley, 1979. Pp. xii, 412. $36.95. *JEL 79–1199*

Sixteen previously unpublished papers, by experimental and social psychologists and industrial relations researchers in Great Britain, Europe, and the United States. The editors, who provide introductions to eight groups of chapters, are Professor of Social Psychology and Director of the Social Psychology Research Unit at the University of Kent at Canterbury and lecturer in psychology at the University of Nottingham, respectively. Author and subject indices.

SUMMERS, GENE F. AND SELVIK, ARNE, eds. *Nonmetropolitan industrial growth and community change.* Lexington, Mass., and Toronto: Heath, Lexington Books, 1979. Pp. xvii, 269. $23.00. *JEL 79–1200*

Fifteen papers on industrial development in nonmetropolitan areas, originally presented at a seminar of the Rural Sociological Society (U.S.A.) in San Francisco in the summer of 1978. Part one reviews contemporary research emphases in Poland, Great Britain, Scandinavia, the United States, and Western Europe. Part two focuses on the implications for local communities of the nonmetropolitan industrial growth phenomenon. Part three examines the impact in the host community produced by in-migration of industry and the changing economic base on community power and quality-of-life. Part four consists of a set of four "working" papers describing European and U.S. data archives; a computerized model for projecting the effects of large-scale energy projects on the economic and social systems of the nearby community; and the conceptual and theoretical implications of employing additive, multiplicative, and mixed models of social change. The editors are Professor of Rural Sociology, University of Wisconsin, Madison, and Director of the Institute of Industrial Economics, Bergen, Norway, respectively. No index.

YANOWITCH, MURRAY, ed. *Soviet work attitudes: The issue of participation in management.* White Plains, N.Y.: Sharpe; Oxford: Martin Robertson, 1979. Pp. xiv, 133. $15.00. *JEL 79–1201*

Six articles translated from Soviet sociological literature of the late 1960's and 1970's. Part one focuses on work attitudes and proposes three themes about the Soviet work experience—(1) creative opportunities are "the single most important factor determining the attitude of the worker toward his position"; (2) work dissatisfaction reaches significant proportions of the young, the better educated, and women; and (3) the level of job satisfaction is not systemically related to work performance. Part two focuses on the issue of worker participation in management, and the three arti-

cles therein discuss (1) a proposal for elections of managerial personnel, (2) the relationship between work satisfaction and opportunities for worker participation in managerial functions, and (3) the necessity for "the functions of performing work and managing work be combined" in order to overcome fragmentation in the work process. Authors are V. A. Iadov, N. A. Aitov, A. A. Kissell, Ia. S. Kapeliush, N. I. Alekseev, and A. V. Tikhonov. Includes an introduction by the editor, Murray Yanowitch, Professor of Economics at Hofstra University. Published simultaneously as Vol. 8, no. 4, of the *International Journal of Sociology*. Bibliography; no index.

New Journals

AEI Foreign Policy and Defense Review

New journal of the American Enterprise Institute for Public Policy Research, issued ten times annually. The current issue (volume 1, no. 4) is devoted to an analysis of the 1980 defense budget and the 1980–84 defense budget, prepared by Lawrence J. Korb, which discusses the 1979 supplemental budget; the size, distribution, and total effects of the components of the 1980 budget; and reviews strategic various issues raised by the budget. Subscription rates: $18.00 for one year, $25.00 for two years; add $4.00 for foreign subscriptions. Individual copies available for $2.50. Write to: Circulation Department, c/o AEI, 1150 17th Street, N.W., Washington, D.C. 20036.

Akron Business and Economic Review

Quarterly publication of the College of Business Administration of the University of Akron devoted to research in all areas of economics and business, with emphasis placed on the applicability of the article to business practices. The Summer 1979 issue (volume 10, number 2) includes articles on environmentalism, advertising agency services, option strategy returns and security volatility, conflicts between social and private responsibilities, subordinate–supervisor relations, consumer satisfaction and marketing effectiveness, full employment and the exchange rate, use of academic accounting consultants, and a Monte Carlo approach to sensitivity analysis. Subscription rates are $6.00 for one year, $11.00 for two, and $15.00 for three. Write to: *Akron Business and Economic Review*, Leigh Hall, The University of Akron, 302 E. Buchtel Avenue, Akron, OH 44325.

Annales de l'Insee

Quarterly publication of the *Institut National de la Statistique et des Études Économiques* devoted to research in statistics and economics. The most recent double issue (January–June 1979, Nos. 33–34) includes five papers on the accumulation and distribution of wealth, including Guy H. Orcutt and James D. Smith on U.S. household wealth, André Masson and Dominique Strauss-Kahn on factors in wealth inequality (in French), Anthony B. Atkinson and Alan J. Harrison on wealth distribution in Britain, Philippe l'Hardy on errors in measuring savings (in French), and Thomas Russell on the share of top wealth holders. Essays in English have French and Spanish summaries; French essays contain the same in English and Spanish. Annual subscription rates: 100F in France, 120F outside France; single issues are 30F. Write to: Bureau d'Information du Public, OEP, Tour Gamma A, 195, rue de Bercy, 75582 Paris, Cedex 12.

Cuadernos economicos de I. C. E.

New quarterly published by the Spanish Ministry of Commerce, which presents articles in Spanish on economics and allied social sciences. Issue number 2, 1977, includes two articles on trends in current economic thought on the supposed death of Keynesian economics (James Tobin, originally published in *Economic Inquiry*, October 1977) and on Marxist political economy (Josep M. Vegara). Also includes eight articles on the reappearance of political economy, one original paper by Enrique Lozano and five translations of previously published articles by G. C. Harcourt, Maurice Dobb, F. H. Hahn, John Hicks, and an additional comment by Harcourt, and four articles on monetarism, one original by Alfonso Carbajo and the rest translations of published articles by John Hicks and Harry Johnson. Subscription rates: 250 pesetas for a single issue and 400 pesetas for a double issue. Write to: *Informatión Comercial Española*, Almagro, 34, 4.ª planta. Madrid-4.

International Studies of Management and Organization

Quarterly journal containing "translations of material that has appeared originally in scholarly journals and books throughout the world." Volume 8, number 4 (winter 1978–79), however, includes four previously unpublished papers from a seminar on new trends, approaches, and targets for strategic management: John A. Murray on a contingency model of strategic decision; Robert F. Pethia and Maurice Saïas on metalevel product-portfolio analysis; Danielle B Nees presents a descriptive model of the divestment decision process; and Jacques H. Horovitz on strategic control in Germany, Great Britain, and France. Annual subscription rates: $90.00 for institutions and $25.00 for individuals associated with subscribing

institutions. Write to: M. E. Sharpe, Inc., 901 North Broadway, White Plains, N.Y. 10603.

Resources and Energy

New quarterly publication devoted to interdisciplinary studies in the allocation of natural resources. The issue at hand (volume 1, No. 3, November 1978) includes four papers: Edward A. Hudson and Dale W. Jorgenson on the economic impact of policies to reduce U.S. energy growth; Ralph M. Rotty on future consequences for fossil fuels of atmospheric carbon dioxide; Gideon Fishelson on investments in capital and leasing on natural resource industries; and Clark W. Bullard, Peter S. Penner, and David A. Pilati on combining process and input-output analysis. Annual subscription rates: $65.85 for institutions and $31.70 for private subscribers (prepaid). Write to: North-Holland Publishing Company, Journal Division, P. O. Box 211, 1000 AE Amsterdam, The Netherlands.

Thrust

New quarterly journal of the Association of Training and Employment Professionals providing a forum for those interested in the evolution of a comprehensive education and training policy between all levels of government as well as other labor market issues. The Winter 1979 issue (volume 1, number 1) includes eight papers on job creation, focusing on its history, its relation to macro policy and full employment, and its effect on youth employment. Annual subscription rates: $17.00 for individuals, $25.00 for institutions; $3.00 additional for subscriptions outside the U.S. and Canada. Single issue price: $7.00. Write to: Redgrave Publishing Company, 430 Manville Road, Pleasantville, N.Y. 10570.

Transport Economics and Operational Analysis

Published for the Bureau of Transport Economics by the Australian Government Publishing Service in Canberra. Issue no. 2, November 1976, contains three articles, a comment, and a reply: "The Evolution of Rolling Stock Replacements" (G. R. Carr and K. R. Mackay); "Mainline Rerailing Principles" (N. Gentle); "An Algorithm for the Optimal Location of Runway Exits" (E. Elston, P. J. Kok, and R. J. Smailes); "Sensitivity of Transportation Benefits to Key Parameters—A Comment" (J. K. Stanley); and "Sensitivity of Transportation Benefits to Key Parameters—A Reply" (F. C. Keith). For information, write: Bureau of Transport Economics, Canberra, Australia.

Editor's Note

The following persons assisted the editors in annotating these books: Mrs. Velma Hirsch, Mr. Michael S. Miller, and Mr. Serif Ulusoy (University of Pittsburgh); Dr. Patrick Litzinger (Robert Morris College); and Mr. Chandler Stolp (Carnegie-Mellon University).

Miss Sumru Altug, Mr. Kishore Kulkarni, Professor Asatoshi Maeshiro, and Mr. Serif Ulusoy (University of Pittsburgh) assisted the editors in classifying the following articles.

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American Journal of Agricultural Economics, Vol. 61, No. 2, May 1979

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Myers, R. J. Expansion or Contraction of Social Security: Serious Side Effects.

O'Connell, J. No-Fault Insurance: What, Why and Where?

Schweig, B. B. Products Liability Problem.

Williams, C. A., Jr. Meeting the Risk of Unemployment: Changing Societal Responses.

Zelten, R. A. Consequences of Increased Third-Party Payments for Health Care Services.

Annals of Public and Co-operative Economy, Vol. 50, No. 1, January–March 1979

Angelopoulos, A. The Investment Crisis and the Approach of the Post-Keynesian Era.

Deschamps, R. Keynesian Economic Policies and Underemployment.

Kühne, K. Keynesianism's Loss of Prestige?

Lambert, P. From the Classical to the Keynesian Theory.

Minguet, A. Reform of Public Finance or Abandonment of Budgetary Policies? The Case of Belgium.

Pascallon, P. Stagflation and Monetary Policy.

Peitchinis, S. G. Keynes and the Steady State Economy.

Quaden, G. Have Keynesian Policies Had Their Day: Introductory Note.

Robinson, J. Has Keynes Failed?

Antitrust Bulletin, Vol. 24, No. 1, Spring 1979

Beckenstein, A. R. Merger Activity and Merger Theories: An Empirical Investigation.

Dalton, J. A. and Qualls, P. D. Market Structure and Inflation.

Hollmann, H. H. Antitrust Law and Protection of Freedom of the Press in the Federal Republic of Germany.

Latham, R. J. and Schechter, M. C. The Price Structure of the Legal Services Industry: Minimum Fee Schedules and Price Discrimination.

Marfels, C. The Impact of Foreign Trade on Concentration Levels: Empirical Findings for Canadian Manufacturing Industries and for the Steel Industries of Four Countries.

Primeaux, W. J., Jr. Some Problems with Natural Monopoly.

Rhoades, S. A. Aggregate Concentration: An Emerging Issue in Bank Merger Policy.

Wirth, M. O. and Allen, B. T. Another Look at Crossmedia Ownership.

Artha-Vikas, Vol. 14, No. 1, January–June 1978

Babaria, C. H. Fertilizer Use and Crop Response Studies: A Review.

Brahmbhatt, D. M. Working of a Farmers' Service Society in Gujarat (Case Study of a Tribal Area in Panchmahals District)

da Costa, G. C. Floating Exchange Rates: Some Issues.

Dholakia, R. H. State Income Inequalities in India and Interstate Variations in Price Movements.

Patel, A. S. and Shah, N. R. Impact of New Technology on the Availability of Calorie and Protein from Foodgrains.

Sharma, B. M. Interest Rate Behaviour in the Unorganised Sector.

ACES Bulletin (Association for Comparative Economic Studies Bulletin), Vol. 20, No. 3–4, Fall–Winter 1978

Durgin, F. A., Jr. The Inefficiency of Soviet Agriculture versus the Efficiency of U.S. Agriculture: Reality or an Idol of the Mind?

Lambert, M. J. Yugoslav Agricultural Goals for 1976–85.

Portes, R. Reply to Professor Simai [Hungary in East European Economies Post-Helsinki].

Simai, M. Hungary in East European Economies Post-Helsinki: A Review Article.

Wihlborg, C. Liberty and Labor Markets: A Reflection on the Swedish Experience.

ACES Bulletin (Association for Comparative Economic Studies Bulletin), Vol. 21, No. 1, Spring 1979

Amacher, R. C. and Boyes, W. J. Macroeconomic Policies and Political Incentives in Democratic Governments: A Test of the Political Business Cycle.

Brubaker, E. R. Elements of Soviet Thought on Collective Consumption.

Lauterbach, A. Intolerance, Violence and Social Change: Rebellion versus Revolution.

Schroeder, G. E. and Greenslade, R. V. On the Measurement of the Second Economy in the USSR.

Severin, B. S. USSR: The All-Union and Moscow Collective Farm Market Price Indexes.

Aussenwirtschaft, Vol. 34, No. 1, March 1979

Abbott, G. C. Effects of Recent Changes in the International Monetary System on the Developing Countries.

Curzon, G. and Curzon, V. The Multi-Tier GATT System.

Giersch, H. Über die Zukunft der Weltwirtschaft. (With English summary.)

Kloten, N. Das Europäische Währungssystem aus der Sicht der Bundesrepublik. (With English summary.)

Machlup, F. The EMS, the Odds for Stability, the US Dollar, and the IMF.

Manes, P. Medium and Long-Term Export Credit.

Mayer, H. W. Der Eurowährungsmarkt, seine makroökonomische Problematik und Auswirkungen. (With English summary.)

Australian Economic Papers, Vol. 18, No. 32, June 1979

Al-Timimi, W. A. A Note on the Effect of Non-Fully Depreciated Capital Equipment on the Diffusion of New Technology.

Bentley, P.; Collins, D. J. and Rutledge, D. J. S. Estimating the Distributional Effects of Taxation.

• **Boland, L. A. and Newman, G.** On the Role of Knowledge in Economic Theory.

• **Clarke, R. J.** Innovation in Australian High Technology Industries: Two Case Studies.

• **Dixon, R. J.** Accounting for Variations in the Wage-Share in Australian Manufacturing: 1969–1977.

Gruen, F. H. Australian Economics, 1967–1977.

• **Hazledine, T. J.** Constraints Limiting the Demand for Labour in Canadian Manufacturing Industry.

Hensher, D. A. Formulating an Urban Passenger Transport Policy: A Re-Appraisal of Some Elements.

Kennedy, C. and Thirlwall, A. P. The Input-Output Formulation of the Foreign Trade Multiplier.

• **Kurz, H. D.** Sraffa after Marx.

• **Laing, N. F.** Technological Uncertainty and the Pure Theory of Optimum Growth.

Murray, D. The Changing Incomes of the Aged in Australia.

• **Park, U. K.** Inter-Industry Effect of Cumulative Wage Indexation.

Parry, T. G. and Watson, J. F. Technology Flows and Foreign Investment in the Australian Manufacturing Sector.

• **Praetz, P. D.** Time Series and Cross-Section Tests of Higgledy-Piggledy Growth on Australian Company Earnings: 1958–73.

Riach, P. A. and Richards, G. M. The Lesson of the Cameron Experiment.

Sampson, A. A. Capital Asset Prices, Wealth Effects and Crowding Out in the Short Run.

Spahn, P. B. The Financial Behaviour of State-Local Governments in Australia.

Australian Journal of Management, Vol. 4, No. 1, April 1979

Albon, R. The Defunct Housing Allowance Experiment: Some Assumptions and Oversights.

Ball, R., et al. Dividends and the Value of the Firm: Evidence from the Australian Equity Market.

Brain, P. J. and Donath, S. A Corporate Model of the Australian Telecommunications Commission: Structure and Applications.

Gilmour, P. and Lansbury, R. D. Training First Line Managers for New Organisational Careers: An Australian Study.

Knowles, M. C. and Knowles, A. D. Job Satisfaction and the Organization's Internal Structure.

Rainbow, K. A. Skewness and Data Errors: An Australian Replication.

Australian Journal of Management, Vol. 4, Supplement April 1979

Chenhall, R. H. Some Elements of Organisational Control in Australian Divisionalised Firms.

Australian Economic Review, No. 45, 1st Quarter 1979

Argy, V. Some Notes on Fiscal Policy and Crowding Out.

Corden, W. M. Wages, Inflation and Unemployment.

Davidson, F. G. A Generally Sceptical View.

Gregory, R. G. and Duncan, R. C. Wages, Technology and Jobs.

Gruen, F. H. Comments on the Institute's Survey.

Higgins, C. I. Policy Relevant Models for the 1970s.

Holmes, A. S. What Do We Now Know?

Johnston, H. N. Real Wages and Unemployment.

Nevile, J. W. Macroeconomic Policy Issues in Australia.

Perkins, J. O. N. Aspects of Macroeconomic Policy.

Sheehan, P.; Derody, B. and Rosendale, P.

An Assessment of Recent Empirical Work Relevant to Macroeconomic Policy in Australia.

Banca Nazionale del Lavoro-Quarterly Review, No. 128, March 1979

Gambale, S. The Crisis in Public Finance in Italy.
- **Maddison, A.** Long Run Dynamics of Productivity Growth.
- **Tanzi, V.** Income Taxes and the Demand for Money: A Quantitative Analysis.
- **Thirlwall, A. P.** The Balance of Payments Constraint as an Explanation of International Growth Rate Differences.

Bancaria, Vol. 35, No. 1, January 1979

Cantoni, R. Le Borse italiane nel 1978. (The Italian Stock Market in 1978. With English summary.)
James, E. La politica monetaria francese dopo il 1970. (French Monetary Policy since 1970. With English summary.)
Marzano, A. L'interdipendenza tra banche e industrie nell'attuale crisi economica. (Interdependence between Banks and Industries in the Present Economic Crisis. With English summary.)
Piga, F. Nuove leggi per il salvataggio di imprese industrali (Considerazioni generali). (New Legislation for the Rescue of Industrial Enterprises. (General Considerations) With English summary.)
Scotto di Carlo, G. Il bilancio pubblico per il "Piano triennale." (The Public Budget for the "Three-year Plan." With English summary.)

Bancaria, Vol. 35, No. 2, February 1979

Cantoni, R. Le Borse estere nel 1978. (Foreign Stock Markets in 1978. With English summary.)
Capriglione, F. Unitarietà della disciplina giurdica del fenomeno moneta-credito. (Unitary Nature of the Juridical Regulation of the Money-Credit Phenomenon. With English summary.)
Paci, S. L'intermediazione finanziaria delle imprese di assicurazione—I. (Financial Intermediation by Insurance Companies—I. With English summary.)

British Journal of Industrial Relations, Vol. 17, No. 1, March 1979

Edwards, P. K. Strikes and Unorganised Conflict: Some Further Considerations.
England, J. How UCATT Revised Its Rules: An Anatomy of Organisational Change.
Hartmann, H. Works Councils and the Iron Law of Oligarchy.
Hughes, J. J. and Brinkley, I. Attitudes and Expectations of Skill Centre Trainees towards Trade Unions and Trade Union Membership.
Lee, D. J. Craft Unions and the Force of Tradition: The Case of Apprenticeship.
Mace, J. Internal Labour Markets for Engineers in British Industry.
Millward, N. Research Note: The Strike Record of Foreign-Owned Manufacturing Plants in Great Britain.
Ramondt, J. Workers' Self-Management and Its Constraints: The Yugoslav Experience.
Undy, R. The Electoral Influence of the Opposition Party in the A.U.E.W. Engineering Section, 1960–75.

Bulletin for International Fiscal Documentation, Vol. 33, No. 3, 1979

Yeoh, C. S. Malaysia: The Real Property Gains Tax Act, 1976—An Outline.

Bulletin for International Fiscal Documentation, Vol. 33, No. 4, 1979

Dominic, M. P. Towards an Islamic Order in Pakistan: Introduction of Islamic Taxes (Zakat and Ushr)
Hay, J.-L. France: A Re-Orientation of the Discussion on Capital Taxation—Part 1.
Hong, L. F. Singapore's 1979 Budget—A Summary.
Malik, I. A. Use of Presumptive Tax Assessment Techniques in Taxation of Small Traders and Professionals in Africa.
Pepper, H. W. T. The Falkland Islands: A Brief Survey of the Tax System.

Bulletin for International Fiscal Documentation, Vol. 33, No. 5, 1979

Hay, J.-L. France: A Re-Orientation of the Discussion on Capital Taxation—Part 2.
Mendes, A. Brazilian Legislation on Industrial Development: Part One.
de Silva, A. A. Tax Changes in Zambia's Budget for 1979.
Spiro, E. The 1979 Income Tax Changes in the Republic of South Africa.

Bulletin of Indonesian Economic Studies, Vol. 15, No. 1, March 1979

Arndt, H. W. and Sundrum, R. M. Civil Service Compensation in Indonesia: A Comment.
Booth, A. The Agricultural Surveys, 1970–75.
Dick, H. Survey of Recent Developments.
Gray, C. Civil Service Compensation in Indonesia.
McCawley, P. and Tait, M. New Data on Employment in Manufacturing: 1970–1977.
Sundrum, R. M. Income Distribution, 1970–76.

Wells, L. T. and Warren, V'E. Developing Country Investors in Indonesia.

Business History Review, Vol. 53, No. 2, Summer 1979

Chandler, A. D., Jr. Hard Data on Hard Coal: Reflections on Chandler's Anthracite Thesis: A Reply.

Chapman, S. D. British Marketing Enterprise: The Changing Roles of Merchants, Manufacturers, and Financiers, 1700–1860.

Gittins, L. Innovations in Textile Bleaching in Britain in the Eighteenth Century.

Jaeger, H. Fritz Leonhard Redlich.

Leary, W. M., Jr. At the Dawn of Commercial Aviation: Inglis M. Uppercu and Aeromarine Airways.

Lewis, W. D. and Newton, W. P. The Delta-C&S Merger: A Case Study in Airline Consolidation and Federal Regulation.

Tipton, F. B., Jr. Small Business and the Rise of Hitler: A Review Article.

Winpenny, T. R. Hard Data on Hard Coal: Reflections on Chandler's Anthracite Thesis.

Cahiers Économiques de Bruxelles, No. 81, 1st Semester 1979

Boll, F. The Structure of the Balance of Payments of the Belgo-Luxemburg Economic Union in Relation to Its Dual Exchange-Rate System.

Cherif, M. and Guillaume, Y. Les énergies douces et la lutte contre le chômage en Belgique: un exemple d'application de la méthod input–output. (Renewable Energy Resources and Employment in Belgium: An Application of the Input–Output Method. With English summary.)

Culus, M. and Konings, M. H. Evolution des effectifs et des revenus des chômeurs complets indemnisés de 1953 a 1976. (Evolution of the Number and Income of the Unemployed in Belgium (1953–1976). With English summary.)

Degaillier-S'Jegers, R. Een input output benadering van de sektoriële Arbeidsproduktiviteit in België. (An Input–Output Approach of the Industrial Labor Productivity in Belgium. With English summary.)

Frank, M. Pour 1979, la fraude fiscale pourrait coûter plus de 200 milliards au Trésor belge. (For 1979, Tax Evasion Could Cost the Belgian Treasury more than 200 Milliards Belgian Francs. With English summary.)

Jehin, B. Fiscalité, dividendes et concentration des sociétés en Belgique. (Corporate Taxation and Dividend Behaviour: The Belgian Case. With English summary.)

Schmitz, N. Le capital à risque dans quelques entreprises en Belgique. (The Risk Capital in Some Belgian Enterprises. With English summary.)

Cahiers Économiques de Bruxelles, No. 82, 2nd Semester 1979

Boelaert, R. and Vanmarsenille, L. Inflatie, groei en het drukverloop van de Belgische inkomstenbelasting gedurende de periode 1963–1976. (Inflation, Growth and the Distribution of the Income Tax Burden in Belgium over the Period 1963–76. With English summary.)

Gerard, M. Investissements dans les branches d'activités, conjoncture et politique économique, une étude économétrique pour la Belgique (1953–1976). (With English summary.)

Moreau, F. Le modèle prévisionnel des faillites. (With English summary.)

Tharakan, P. K. M. and Vandoorne, M. Structure of Belgium's Comparative Advantage vis-à-vis the Developing World—A Tentative Classification of Industries.

California Management Review, Vol. 21, No. 3, Spring 1979

Amano, M. M. Organizational Changes of a Japanese Firm in America.

Danielsson, C. Business and Politics: Toward a Theory beyond Capitalism, Plato, and Marx.

Herzlinger, R. Managing the Finances of Nonprofit Organizations.

Kilmann, R. H. and Mitroff, I. I. Problem Defining and the Consulting/Intervention Process.

Mason, R. O. and Swanson, E. B. Measurement for Management Decision: A Perspective.

Meglino, B. M. A Methodology for Nurse Staffing.

Monsen, R. J. The Future of American Capitalism.

Wooldredge, W. D. Winning Line Support for New Financial Programs.

Zeira, Y. and Harari, E. Host-Country Organizations and Expatriate Managers in Europe.

Cambridge Journal of Economics, Vol. 3, No. 1, March 1979

- **de Cecco, M.** Origins of the Post-War Payments System.
- **Flakierski, H.** Economic Reform and Income Distribution in Hungary.
- **Garegnani, P.** Notes on Consumption, Investment and Effective Demand: II.

Locksley, G. and Ward, T. Concentration in Manufacturing in the EEC.

- **Papantoniou, J.** Foreign Trade and Industrial Development: Greece and the EEC.

Roberts, C. C. Economic Theory and Policy Mak-

ing in West Germany: The Rôle of the Council of Economic Experts.

- **Steindl, J.** Stagnation Theory and Stagnation Policy.

Cambridge Journal of Economics, Vol. 3, No. 2, June 1979

- **Boyer, R.** Wage Formation in Historical Perspective: The French Experience.
- **Bruno, S.** The Industrial Reserve Army, Segmentation and the Italian Labour Market.

Cripps, F. Wages and Unemployment—A Non-Monetarist Rejoinder.

Garegnani, P. Notes on Consumption, Investment and Effective Demand: A Reply to Joan Robinson.

Horsman, A. A. Cripps on Wages and the Quantity Theory—A Monetarist Reply.

Kawakami, T. The Crisis of the Capitalist World: A Marxist View.

Robinson, J. Garegnani on Effective Demand.

- **Sylos-Labini, P.** Industrial Pricing in the United Kingdom: Review Article.
- **Vyas, A.** Primary Accumulation in the USSR Revisited.

Canadian Journal of Economics, Vol. 12, No. 2, May 1979

- **Auld, D. A. L., et al.** The Impact of the Anti-Inflation Board on Negotiated Wage Settlements.

Bertram, G. W. and Percy, M. B. Real Wage Trends in Canada, 1900–26: Some Provisional Estimates.

- **de Bever, L., et al.** Dynamic Properties of Four Canadian Macroeconomic Models: A Collaborative Research Project.
- **de Bever, L. and Maxwell, T.** An Analysis of Some of the Dynamic Properties of RDX2.
- **Cameron, N.** The Stability of Canadian Demand for Money Functions, 1954–75.
- **Foot, D. K. and Sawyer, J. A.** Some Dynamic Properties of the TRACE Model.

Freedman, C. A Note on Net Interest Payments to Foreigners under Inflationary Conditions.

- **Gunderson, M.** Earnings Differentials between the Public and Private Sectors.
- **Helliwell, J. F.; Maxwell, T. and Waslander, H. E. L.** Comparing the Dynamics of Canadian Macro Models.
- **Jump, G. V.** The Quarterly Forecasting Model.
- **Manning, R. and McMillan, J.** Public Intermediate Goods, Production Possibilities, and International Trade.

Meltz, N. M. and Stager, D. A. A. Trends in the Occupational Structure of Earnings in Canada, 1931–71.

Montmarquette, C. and Forest, P. Application et interprétation d'un test statistique de causalité à la politique fiscale et monétaire canadienne.

- **Reid, F.** The Effect of Controls on the Rate of Wage Change in Canada.
- **Waslander, H. E. L.** The Dynamic Properties of CANDIDE Model 1.2M.

Canadian Public Policy, Vol. 5, No. 2, Spring 1979

Berkowitz, M. K. A Review of Canadian and US Solar Energy Policies.

Bruce, C. J. The Calculation of Foregone Lifetime Earnings: Three Decisions of the Supreme Court of Canada.

Brunet, M. and Vinet, A. Le pouvoir professionnel dans la domaine de la santé et des services sociaux. (With English summary.)

Copithorne, L. Natural Resources and Regional Disparities: A Skeptical View.

Landry, R. Les projets de réformes constitutionnelles des grands partis politiques fédéraux et de la Commission Pépin-Robarts: essai d'évaluation.

McMillan, M. L. A Residential Interest Deduction as a Potential Approach to Taxing Imputed Rent.

Moore, A. M. Fact and Fantasy in the Unity Debate.

Osberg, L. Unemployment Insurance in Canada: A Review of the Recent Amendments.

Short, B. K. A Review of Bill C-57, the Proposed New Bank Act.

Thibeault, A. and Wynant, L. Investor Reaction to the Political Environment in Quebec.

Woodside, K. Tax Incentives vs. Subsidies: Political Considerations in Governmental Choice.

Consommation, Vol. 25, No. 4, October–December 1978

Babeau, A. Le coût de la sécurité du consommateur. (The Cost of Consumers' Safety. With English summary.)

Kessler, D. and Strauss-Kahn, D. Épargne et inflation. (Savings and Inflation. With English summary.)

Czechoslovak Economic Digest, No. 1, February 1979

Lér, L. Improvement of the System of Management of the Czechoslavak Economy.

Šedivec, V. Economic Integration among Advanced Capitalist States.

Suchý, J. Development of Socialism and Satisfaction of the Necessities of Life.

Czechoslovak Economic Digest, No. 2, March 1979

Papp, J. Topical Problems in the Development of the National Economy.

Povolný, M. Present Problems of Czechoslovakia's Fuel and Energy Base.

Czechoslovak Economic Digest, No. 3, May 1979

Ďurkovič, H. Socialist Economic Integration: Source of Our Future Successes.

Hůla, V. Demanding Tasks in the Closing Stage of the Five-Year Plan Period.

Hvorecký, J. Results of the Czechoslovak-Soviet Economic Cooperation.

Kempný, J. The Role of Scientific Management in the Construction of an Advanced Socialist Society.

Demography, Vol. 16, No. 2, May 1979

Cramer, J. C. Employment Trends of Young Mothers and the Opportunity Cost of Babies in the United States.

Demetrius, L. Relations between Demographic Parameters.

Frey, W. H. The Changing Impact of White Migration on the Population Compositions of Origin and Destination Metropolitan Areas.

Haines, M. R. The Use of Model Life Tables to Estimate Mortality for the United States in the Late Nineteenth Century.

Herold, J. M. Female Migration in Chile: Types of Moves and Socioeconomic Characteristics.

Manton, K. G. and Poss, S. S. Effects of Dependency among Causes of Death for Cause Elimination Life Table Strategies.

Rosenwaike, I. A New Evaluation of United States Census Data on the Extreme Aged.

Shapiro, D. and Mott, F. L. Labor Supply Behavior of Prospective and New Mothers.

Thornton, A. Fertility and Income, Consumption Aspirations, and Child Quality Standards.

Westoff, C. F. and Jones, E. F. The End of "Catholic" Fertility.

Williams, J. D. and Sofranko, A. J. Motivations for the Immigration Component of Population Turnaround in Nonmetropolitan Areas.

Desarrollo Económico, Vol. 18, No. 71, October–December 1978

Abalo, C. Aldo Ferrer y el dilema económico de la Argentina.

Guadagni, A. A. Un Análisis de costo-beneficio de la medición del consumo de agua.

Kvaternik, E. Sobre partidos y democracia en la Argentina entre 1955 y 1966.

Schvarzer, J. Estrategia industrial y grandes empresas: el caso argentino.

Tironi, E. Teoría de los costos y beneficios de inversión extranjera en procesos de integración.

Tulchin, J. S. El crédito agrario en la Argentina, 1910–1926.

Desarrollo Económico, Vol. 18, No. 72, January–March 1979

Bailey, J. P. Inmigración y relaciones étnicas: Los ingleses en la Argentina.

Ferrer, A. El retorno del liberalismo: Reflexiones sobre la política económica vigente en la Argentina.

Ffrench-Davis, R. Eficiencia y equidad en la integración económica de países en desarrollo: El caso de la programación regional de inversiones.

Meller, P. El patrón de concentracion industrial de America Latina y de Europa Occidental.

O'Donnel, G. Que democracia: Respuesta a un comentario de E. Kvaternik.

Santamaria, D. J. La estructura agraria del Alto Perú a fines del siglo XVIII: Un análisis de tres regiones maiceras del Partido de Larecaja en 1975.

Sourrouille, J. V. and Kosacoff, B. Sobre la evolucion del contenido de importaciones intermedias en la demanda final y las exportaciones argentinas: Un ejercicio en insumo-producto.

Wainerman, C. H. Educación, familia y participación económica femenina en la Argentina.

Eastern European Economics, Vol. 17, No. 3, Spring 1979

Askanas, B.; Askanas, H. and Levcik, F. The Economy of the CMEA Countries in the Second Half of the Seventies.

Askanas, B.; Askanas, H. and Levcik, F. The Foreign Trade of the CMEA Countries in the Second Half of the Seventies.

Lisá, M. and Novotný, V. Determining the Time-Lag in the Production Effect of Investment in the Czechoslovak Economy.

Rosati, D. The Use of Foreign Trade in Carrying out the Strategy of Economic Development.

Soukup, P. The Concept of the Place and Role of Social Needs in Planned Price Setting.

Econometrica, Vol. 47, No. 3, May 1979

Akin, J. S. and Stewart, J. F. Theoretical Restrictions on the Parameters of Indirect Addilog Demand Equations.

- **d'Aspremont, C. and Drèze, J. H.** On the Stability of Dynamic Processes in Economic Theory.
- **Barbera, S.** A Note on Group Strategy-Proof Decision Schemes.
- **Barnett, W. A.** The Joint Allocation of Leisure and Goods Expenditure.
- **Benveniste, L. M. and Scheinkman, J. A.** On the Differentiability of the Value Function in Dynamic Models of Economics.
- **Blackorby, C. and Diewert, W. E.** Expenditure Functions, Local Duality, and Second Order Approximations.

- • **Chang, W. W.** Some Theorems of Trade and General Equilibrium with Many Goods and Factors.
- **Cronin, D. C.** Function for Size Distribution of Incomes: A Further Comment.
- • **Fisher, W. D.** A Note on Aggregation and Disaggregation.
- • **Friesen, P. H.** The Arrow-Debreu Model Extended to Financial Markets.
- • **Goldman, S. M.** Intertemporally Inconsistent Preferences and the Rate of Consumption.
- **Granger, C. W. J.** Nearer-Normality and Some Econometric Models.
- • **Greenberg, J.** Consistent Majority Rules over Compact Sets of Alternatives.
- • **Hurwicz, L. and Richter, M. K.** Ville Axioms and Consumer Theory.
- • **Kreps, D. M.** A Representation Theorem for "Preference for Flexibility"
- • **Milgrom, P. R.** A Convergence Theorem for Competitive Bidding with Differential Information.
- • **Pestieau, P. and Possen, U. M.** A Model of Wealth Distribution.
- • **Radner, R.** Rational Expectations Equilibrium: Generic Existence and the Information Revealed by Prices.
- **Richardson, S. M. and White, K. J.** The Power of Tests for Autocorrelation with Missing Observations.
- **Ringstad, V.** A Method of Calculating the Effects and Gains of Utilizing Scale-Economies.
- **Roth, A. E.** Proportional Solutions to the Bargaining Problem.
- • **Takayama, N.** Poverty, Income Inequality, and Their Measures: Professor Sen's Axiomatic Approach Reconsidered.
- • **Weitzman, M. L.** Optimal Search for the Best Alternative.

Economia Internazionale, Vol. 31, No. 3–4, August–November 1978

- **Bird, G.** An Analysis of the Welfare Gains from Special Drawing Rights.
- **Hess, V.** Rapporti politici e sistema dei prezzi del Comecon.
- **Kaufmann, H. M.** Germany's Option to be a Mini-Locomotive: A Reassessment of 1977.
- **Ranuzzi, P.** Trade Creation and Substitution Effects of Multilateral Tariff Reductions: The Tokyo Round of Trade Negotiations within the Framework of the General Agreement on Tariffs and Trade (GATT)
- **Sampson, G. P.** An Analysis of the Sources of Inter-Country Differences in International Transport Costs.
- **Schloss, H. H.** The Criticism of the Multinational Corporation Critiqued.
- **Tanzi, V.** Import Taxes and Economic Development.

***Economic Affairs, Vol. 23, No. 9–10, September–October 1978**

- **Aulakh, H. S. and Kainth, G. S.** Structure of Agricultural Holdings in Amritsar District of Punjab.
- **Gigris, B. N.** Linking Rural and Urban India.
- **Mehrotra, H. C. and Kulshrestha, D. K.** Development of Banks and Banking Habits in India.
- **Mohanty, S.** Decentralisation of Industries as an Alternative Strategy for Development—Problems and Prospects with Some References to Orissa.
- **Sahay, R.** Ricardo and Growth Theories.
- **Singh, R. and Grewal, S. S.** Mechanisation of Indian Agriculture: The Case for Small and Marginal Farmers.
- **Singh, D. K. and Mishra, B. K.** Measures for Increasing Marketing Efficiency of Jute: A Case Study of Purnea District of North Bihar.
- **Venkiteswaran, S.** Central Banking in Developing Countries.

Economic Affairs, Vol. 23, No. 11, November 1978

- **Ashturkar, B. W.** Inter-District Variation in Production and Productivity of Cotton in Aurangabad Division (Maharashtra State)
- **Chikkiah, M.** Bonus to Railwaymen.
- **Iqbal, M.** India's Trade Prospects in Gulf Countries.
- **Rao, N.** Role of Small Scale Industries in Indian Economy.
- **Singh, J.; Singh, N. and Singla, S. K.** An Analysis of Farm Resource Use Pattern in Different Agro-climate Regions of the Punjab State.

Economic Computation and Economic Cybernetics Studies and Research, Vol. 12, No. 3, 1978

- **Bărbatu, G. I., et al.** Statistic Mathematical Modelling of Tetraethyl-Lead Susceptibility of Gasolines.
- **Diaconescu, G.; Magda, M. and Ionescu, C.** An Algorithm for Dynamic Determination of the Retrieval Thesaurus in a Statistical Data BASE.
- **Enache, M.** Notes on the Use of Market-Oriented Urban Games in the Context of Planned Economies.
- **Mănescu, M.** Economic Space and Economic Time—Systematic Approach.
- **Onicescu, O. and Botez, M. C.** A Stochastic-In-

* The September–October 1978 issue of *Economic Affairs* carries the issue numbers 8–9 on the cover. According to our records, the sequential number is 9–10.

formational Approach to Input-Output Analysis.

Pescaru, V., et al. Development of Data Bank Management Systems with Facilities for Calculations on Tree-Like Information Structures.

Popovici, A. A. A Markovian Stochastic Model of the Profit's General Rate Formation.

Schulze, G. Investigation and Review of Periodical Fluctuations in Port Turnovers.

Economic Computation and Economic Cybernetics Studies and Research, Vol. 12, No. 4, 1978

Birlea, S. Some Considerations on the Entropy in Cybernetic Systems.

Fabian, C.; Moga, S. and Şerban, R. Production Programming Problem Modellation to an Electric Steel Plant.

Mânescu, M. Economic Logistics and Quantum.

Văduva, I. Some Statistical Considerations Concerning the Reliability Analysis in the Multivariate Case.

Economic Development and Cultural Change, Vol. 27, No. 3, April 1979

Adams, M. E. and Howell, J. Developing the Traditional Sector in the Sudan.

Dovring, F. Underemployment, Slow Motion, and X-Efficiency.

Epstein, E. C. Control and Co-optation of the Argentine Labor Movement.

Galbis, V. Money, Investment, and Growth in Latin America, 1961–1973.

Hawley, A. H.; Fernandez, D. and Singh, H. Migration and Employment in Peninsular Malaysia, 1970.

Isenman, P. and Singer, H. W. The Price-Disincentive Effect of Food Aid Revisited: A Reply.

Kahn, M. A. and Sirageldin, I. Education, Income, and Fertility in Pakistan.

Ram, R. and Schultz, T. W. Life Span, Health, Savings, and Productivity.

Svedberg, P. The Price-Disincentive Effect of Food Aid Revisited: A Comment.

Vicente-Wiley, L. Achievement Values of Filipino Entrepreneurs and Politicians.

Economic Development and Cultural Change, Vol. 27, No. 4, July 1979

Adams, J. and Bumb, B. Determinants of Agricultural Productivity in Rajasthan, India: The Impact of Inputs, Technology, and Context on Land Productivity.

Barnett, T. Politics and Planning Rhetoric in Papua New Guinea.

Bomberger, W. A. and Makinen, G. E. Some Further Tests of the Harberger Inflation Model Using Quarterly Data.

Gable, R. W. and Springer, J. F. Administrative Implications of Development Policy: A Comparative Analysis of Agricultural Programs in Asia.

Grabowski, R. The Implications of an Induced Innovation Model.

Hansen, B. Colonial Economic Development with Unlimited Supply of Land: A Ricardian Case.

Kamerschen, D. R. Poverty, Power, and Pollution: Review Article.

Reynolds, S. E. Fluctuations in Export Earnings and Economic Patterns of Asian Countries: A Comment on the Role of Intraregional Trade.

Root, F. R. and Ahmed, A. A. Empirical Determinants of Manufacturing Direct Foreign Investment in Developing Countries.

Shaw, R. P. A Note on Shifts in Parity, Poverty, and Sources of Farm Family Income in North America.

Smil, V. and Kuz, T. China: A Quantitative Comparison of Development, 1950–1970.

Stavig, G. R. The Impact of Population Growth on the Economy of Countries.

Young, F. W.; Freebairn, D. K. and Snipper, R. The Structural Context of Rural Poverty in Mexico: A Cross-State Comparison.

Economic Geography, Vol. 55, No. 2, April 1979

Bradbury, J. H. Towards an Alternative Theory of Resource-Based Town Development in Canada.

Fotheringham, A. S. and Reeds, L. G. An Application of Discriminant Analysis to Agricultural Land Use Prediction.

Griffith, D. A. Urban Dominance, Spatial Structure, and Spatial Dynamics: Some Theoretical Conjectures and Empirical Implications.

Smith, T. R. and Shapiro, P. On the Spatial Equity of the California Sales Tax: Estimates of Imbalances in Tax Dollar Flows.

Thrall, G. I. Spatial Inequities in Tax Assessment: A Case Study of Hamilton, Ontario.

Economic History Review, Second Series, Vol. 32, No. 2, May 1979

• **Broad, J. P. F.** Gentry Finances and the Civil War: The Case of the Buckinghamshire Verneys.

• **Eltis, D.** The British Contribution to the Nineteenth-Century Transatlantic Slave Trade.

Galenson, D. The Slave Trade to the English West Indies, 1673–1724.

Hohenberg, P. M. The Transformation of Agricultural Labor Supply in Nineteenth-Century France: Comment.

• **Kennedy, L.** Traders in the Irish Rural Economy, 1880–1914.

• **McClure, P.** Patterns of Migration in the Late Middle Ages: The Evidence of English Place-Name Surnames.

Price, R. On Agricultural Labor Supply in Nineteenth-Century France: A Rejoinder.

• **Pryor, Z. P.** Czechoslovak Fiscal Policies in the Great Depression.

Schwarz, L. D. Income Distribution and Social Structure in London in the Late Eighteenth Century.

Economic Inquiry, Vol. 17, No. 2, April 1979

Barth, J. and Bennett, J. The Relationship between FEBS and GNP Reconsidered.

• **Brown, D. M. and Lapan, H. E.** The Supply of Physicians' Services.

Crain, W. M.; Deaton, T. and Tollison, R. D. Toenote to a Footnote.

Dunlevy, J. A. and Yeager, J. H., Jr. Legislators as Taxicabs: A Reconsideration.

• **Frech, H. E., III.** The Extended Coase Theorem and Long Run Equilibrium: The Nonequivalence of Liability Rules and Property Rights.

Hanson, J. R., II. Money in the Colonial American Economy: An Extension.

Hirsch, B. T. Education and Differences in Postschool Human Investment: Comment.

Knapp, C. B. Education and Differences in Postschool Human Investment: Reply.

Lieberman, C. A Transactions vs. Asset Demand Approach to the Empirical Definition of Money.

• **Parks, R. W.** Durability, Maintenance and the Price of Used Assets.

Patinkin, D. A Study of Keynes' Theory of Effective Demand.

Primeaux, W. J., Jr. Rate Base Methods and Realized Rates of Return: Reply.

Rock, S. M. Rate Base Methods and Realized Rates of Return: Comment.

• **Schmalensee, R.** Market Structure, Durability, and Quality: A Selective Survey.

Stephens, J. K. and Grapentine, T. The Relationship between FEBS and GNP: Comment.

• **Strober, M. H. and Best, L.** The Female/Male Salary Differential in Public Schools: Some Lessons from San Francisco, 1879.

Economic Studies Quarterly, Vol. 30, No. 1, April 1979

Amano, M. Labor Migration and Wage Differentials in a Less Developed Country. (In Japanese. With English summary.)

• **Ban, K.** A Comparison of Alternative Estimation Methods for Large Scale Econometric Models: A Case Study of an Econometric Model of Japan.

• **Holden, K. and Peel, D. A.** The Augmented Phillips Curve: Some Empirical Results for Italy, Japan and the U.K.

• **Hsiao, F. S. T.** Relative Stability of Balanced Growth and Asymptote Criterion in Neoclassical Models.

Ichioka, O. The Local Stability of the Morishima Case.

Nikaido, H. Pathology of Neoclassical Growth. (In Japanese. With English summary.)

Ohta, M. Theory of the Hedonic Approach to Producer Goods. (In Japanese. With English summary.)

Trivedi, P. K. and Pagan, A. R. Polynomial Distributed Lags: A Unified Treatment.

Economica, Vol. 46, No. 181, February 1979

• **Davies, S. W.** Choosing between Concentration Indices: The Iso-Concentration Curve.

• **Falvey, R. E.** Specific Factors, Comparative Advantage and International Investment: An Extension.

• **Ferguson, B. L. and Gupta, K. L.** On the Dynamics of Inflation and Unemployment in a Quantity Theory Framework.

• **Horne, J.** The Effect of Devaluation on the Balance of Payments and the Labour Market: United Kingdom, 1967.

• **Milgate, M.** On the Origin of the Notion of "Intertemporal Equilibrium"

• **Robinson, W.; Webb, T. R. and Townsend, M. A.** The Influence of Exchange Rate Changes on Prices: A Study of 18 Industrial Countries.

• **Stoneman, P.** A Simple Diagrammatic Apparatus for the Investigation of a Macroeconomic Model of Temporary Equilibria.

• **Winegarden, C. R.** Schooling and Income Distribution: Evidence from International Data.

Économie Appliquée, Vol. 31, No. 3–4, 1978

Arnoult, E. Hiérarchies et articulations internationales des économies.

Auray, J.-P.; Duru, G. and Mougeot, M. L'asymétrie des relations intersectorielles: une analyse prétopologique.

de Boissieu, C. La notion de régulation monétaire.

Brender, A. L'objet de la cybernètique économique: un essai de définition.

Chanier, P. La quantification rétrospective substitut de la notion d'équilibre.

Dagum, C. A Measure of Inequality between Income Distributions.

Deutsch, E. The Sensitivity of the Austrian Economy in the Case of an External Crisis.

Donnadieu, G. and Cambus, C. La régulation contractuelle appliquée à la politique salariale: les contrats EDF et industrie du pétrole.

Donnadieu, G. La régulation contractuelle de l'économie.

Féron, R. Essai de formalisation de la régulation de l'entreprise.

Lesourne, J. La théorie des systèmes et la théorie économique.

Malița, M. and Zidăroiu, C. Incertitude et apprentissage dans la prise des décisions économiques.

Onicescu, O. Regard sur la science économique.

Onicescu, O. and Botez, M. C. Essai d'économétrie informationnelle.

Pascallon, P. La régulation de la croissance.

Perroux, F. L'équilibre des unités passives et l'équilibration générale des unités actives.

Régnier, A. Environnement turbulent et instabilité organique.

Savall, H. Compatibilité de l'efficience économique et du développement humain.

Vallée, R. Un aspect de l'analyse de la régulation: l'actualisation des chroniques multidimensionnelles.

Walliser, B. Théorie des systèmes et régulation économique.

Économie Appliquée, Vol. 32, No. 1, 1979

Brewer, K. R. W. Seasonal Adjustment of Arima Series.

Cleveland, W. P. and Tiao, G. C. Modeling Seasonal Time Series.

Dagum, E. B. Fondements des deux principaux types de méthodes de désaisonnalisation et de la méthode X-11-ARMMI.

Dagum, C. A Mean Generating Function for the Assessment of Estimator Biases.

Huot, G. Simulation stochastique des composantes des séries temporelles.

Leclerc, G. La désaisonnalisation en pratique.

Pierce, D. A. Seasonal Adjustment of Daily Data with Special Reference to the US Money Supply.

Economisch en Sociaal Tijdschrift, Vol. 33, No. 2, April 1979

Bataillie, M. Petroleum: de harde confrontatie moet nog komen. (Petroleum: Rough Confrontation in Sight? With English summary.)

Cool, K. and Moesen, W. Budgetsaldi en de anticyclische bijdrage van de budgettaire politiek in België, 1953–1977.

Debyser, C. De Belgische confectie-industrie. (The Belgian Ready-Made Textile Industry. With English summary.)

Nonneman, W. Arbeidsaanbod, loonpeil en werkloosheid.

Vincent, J. Ergonomische aspecten in de procesindustrie. (Ergonomics and Process Industry. With English summary.)

Economisch en Sociaal Tijdschrift, Vol. 33, No. 3, June 1979

van Heusden, R. F. Onderneming, maatschappij en menselijke motivatie.

Lemal, D. and Gevers, P. Werkstructurering en werkoverleg: Een sociologische vraagstelling rond 13 experimenten in België.

Marechal, M. Concurrentiepositie en industriebeleid. (Competitiveness and Industrial Policy. With English summary.)

Plasschaert, S. Beschouwingen nopens de economische en fiscale aspecten van het federaliseringsproces. (Comments on the Economic and Fiscal Aspects of Federalism in Belgium. With English summary.)

Vranken, J. Armoede in de welvaartsstaat: problematiek en enkele krachtlijnen voor een analyse.

De Economist, Vol. 127, No. 1, 1979

- **Buiter, W. H. and Owen, R. F.** How Successful Has Stabilization Policy been in the Netherlands? A Neo-Keynesian Perspective.
- **den Dunnen, E.** Postwar Monetary Policy.
- **Jager, H.** The Impact of the Exchange Rate System on the Effectiveness and Implementation of Stabilization Policy in the Netherlands.
- **Knoester, A.** On Monetary and Fiscal Policy in an Open Economy.
- **Zijlstra, J.** Monetary Theory and Monetary Policy: A Central Banker's View.

Ekonomicko–Matematicky Obzor, Vol. 15, No. 1, 1979

Díaz, J. A. Finding a Complete Description of All Efficient Solutions to a Multiobjective Transportation Problem.

Glückaufová, D. and Hlaváček, J. Vyhodnocování variant alokace zdrojů ve výrobní sféře. (Evaluation of Alternative Allocations of Resources in the Productive Sphere of National Economy. With English summary.)

Mihola, J. and Pastrňák, I. Matematický aparát konstrukce syntetických ukazatelů efektivnosti. (Mathematic Apparatus of Synthetic Efficiency Indicators Construction. With English summary.)

Van Uyen, D. Agregácia modelu celočíselného programovania. (Integer Programming Models Aggregation. With English summary.)

Yefanova, T. L.; Lutkov, V. I. and Schimmer, R. Simulation Modelling Method for Solving Time-Scheduling Problems of Discrete Type Production. (In Russian. With English summary.)

Ekonomiska Samfundets Tidskrift, Vol. 32, No. 1, 1979

Dahmén, E. Den svenska krisen. (The Swedish Crisis. With English summary.)

Ekholm, B.-G. Reflexioner kring aktiemarknadsforskningens inriktning. (Some Thoughts about Current Trends in Equity Market Research.

With English summary.)

Müller, C. The Role of the European Free Trade Association Today.

af Schultén, G. Konsumentskyddet och företagen. (Consumer Protection and the Firms. With English summary.)

Waris, K. Vår strukturkis. (Our Structural Crisis. With English summary.)

Wires, G. Handeln och Konsumentskyddet. (Trade and Consumer Protection. With English summary.)

Empirical Economics, Vol. 3, No. 4, 1978

Hackl, P. and Katzenbeisser, W. On the Adequacy of Consumption Functions for Austria.

Kosobud, R. F. and Stokes, H. H. Oil Market Share Dynamics: A Markov Chain Analysis of Consumer and Producer Adjustments.

Matthews, K. G. P. A Monetary Model of Nominal Income Determination for the U.K.

Parikh, A. A Comparative Study on the Structure of the Chemical Industry in Belgium and Italy.

Engineering Economist, Vol. 24, No. 3, Spring 1979

Bernhard, R. H. 'Modified' Rates of Return for Investment Project Evaluation—A Comparison and Critique.

Chamberlin, J. H. Direct Inclusion of Demand Functions in Linear Programming Forecasting Models.

Freidenfelds, J. and Kennedy, M. Price Inflation and Long-Term Present-Worth Studies.

Hale, C. W. Pricing of NASA Space Shuttle Transportation System Cargo.

Estudios Empresariales, No. 39, 1978

Ansola, G.; Zabala, I. and Iñarra, E. Un análisis critico del Pacto de la Moncloa.

van Dam, A. VII Congreso Mundial de la Planificación: planificación para una sorpresa estratégica.

Gorosquieta, J. Una nueva inflación que a todos perjudica y a nadie beneficia.

Malla Mora, F. G. and Zabala Zabala, I. La Prevision del futuro en la Empresa (III) el método Delphi.

Oliver, J. J. La Incidencia de la inflación sobre la determinacion del beneficio.

Recalde, J. R. El Comercio Exterior en el Sector de la Maquina-Herramienta (I)

Explorations in Economic History, Vol. 16, No. 1, January 1979

Goldin, C. "N" Kinds of Freedom: An Introduction to the Issues.

Ransom, R. and Sutch, R. Credit Merchandising in the Post-Emancipation South: Structure, Conduct, and Performance.

Reid, J. D., Jr. White Land, Black Labor, and Agricultural Stagnation: The Causes and Effects of Sharecropping in the Postbellum South.

Temin, P. Freedom and Coercion: Notes on the Analysis of Debt Peonage in One Kind of Freedom.

Wright, G. Freedom and the Southern Economy.

Explorations in Economic History, Vol. 16, No. 2, April 1979

DeCanio, S. J. Accumulation and Discrimination in the Postbellum South.

Feeny, D. Paddy, Princes, and Productivity: Irrigation and Thai Agricultural Development, 1900-1940.

Goldin, C. Household and Market Production of Families in a Late Nineteenth Century American City.

Nghiep, L. T. and Hayami, Y. Mobilizing Slack Resources for Economic Development: The Summer-Fall Rearing Technology of Sericulture in Japan.

Ransom, R. L. and Sutch, R. Growth and Welfare in the American South of the Nineteenth Century.

Soltow, L. and May, D. L. The Distribution of Mormon Wealth and Income in 1857.

Federal Reserve Bank of New York Quarterly Review, Vol. 4, No. 1, Spring 1979

Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations.

Holmes, A. R.; Sternlight, P. D. and Meulendyke, A.-M. Monetary Policy and Open Market Operations in 1978.

Jamroz, D. Public Service Employment: Its Role in a Changing Economy.

Moskowitz, W. E. Global Asset and Liability Management at Commercial Banks.

Pardee, S. E. How Well are the Exhange Markets Functioning?

Wenninger, J. and Sivesind, C. M. Defining Money for a Changing Financial System.

Willis, M. A. Business Taxation in New York City.

Young, J. S. New York's Insurance Industry: Perspective and Prospects.

Federal Reserve Bank of St. Louis Review, Vol. 61, No. 4, April 1979

Carlson, K. M. Formulating Economic Policy for 1979 and Beyond: Old Problems and New Constraints.

Lovati, J. M. and Gilbert, R. A. Do Floating Ceilings Solve the Usury Rate Problem?

Mudd, D. R. Did Discount Rate Changes Affect the Foreign Exchange Value of the Dollar during 1978?

Federal Reserve Bank of St. Louis Review, Vol. 61, No. 5, May 1979

Roos, L. K. Monetary Targets—Their Contribution to Policy Formation.
Tatom, J. A. Energy Prices and Capital Formation: 1972-1977.

Federal Reserve Bank of San Francisco Economic Review, Spring 1979

Bazdarich, M. Has a Strong U.S. Economy Meant a Weak Dollar?
Keran, M. W. Money and Exchange Rates—1974–79.
Scadding, J. L. Estimating the Underlying Inflation Rate.

Federal Reserve Bulletin, Vol. 65, No. 4, April 1979

Coldwell, P. E. Statement to Congress.
Frankel, A. B. U.S. International Transactions in 1978.
Partee, J. C. Statement to Congress.
Partee, J. C. Statement to Congress.

Federal Reserve Bulletin, Vol. 65, No. 5, May 1979

Lefever, D. M. Survey of Time and Savings Deposits at Commercial Banks, January 1979.
Partee, J. C. Statement to Congress.
Teeters, N. H. Statement to Congress.
Wallich, H. C. Statement to Congress.

Federal Reserve Bulletin, Vol. 65, No. 6, June 1979

Gay, R. S. Recent Labor Market Developments.
Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations: Interim Report.
Miller, G. W. Statement to Congress.
Partee, J. C. Statement to Congress.
Partee, J. C. Statement to Congress.
Teeters, N. H. Statement to Congress.
Teeters, N. H. Statement to Congress.

Finance and Development, Vol. 16, No. 2, June 1979

Artus, J. R. Potential and Actual Output in Industrial Countries.
Chu, K. and Feltenstein, A. Extraordinary Inflation: The Argentine Experience.
Cutler, D. S. The Liquidity of the International Monetary Fund.
Friedmann, E. and Goodman, R. Prospects for Oil and Gas Production in the Developing World.
Gold, J. The Structure of the Fund.
Noor, A. Education Lending for the Poor.
Reutlinger, S. and Selowsky, M. The Economic Dimensions of Malnutrition in Young Children.
Santa Cruz, H. The Three Tiers of "Basic Needs" for Rural Development.
Streeten, P. Multinationals Revisited.

Finance and Trade Review, Vol. 13, No. 2, December 1978

Faure, A. P. The South African Reserve Bank as Lender of Last Resort.
van der Merwe, P. J. The Training of the Labour Force in South Africa.

Foreign Affairs, Vol. 57, No. 5, Summer 1979

Crittenden, A. Israel's Economic Plight.
Okita, S. Japan, China and the United States: Economic Relations and Prospects.
Quirós Corradi, A. Energy and the Exercise of Power.
Vernon, R. The Fragile Foundations of East-West Trade.

Growth and Change, Vol. 10, No. 2, April 1979

Fisher, J. S. Manufacturing Additions in Georgia: Metropolitan–Nonmetropolitan Differences from 1961 to 1975.
Fry, M. J. Economic Growth and Capital Shortage in Alaska, Hawaii, and Puerto Rico.
Hansen, N. Europe's Guest Worker Policies and Mexicans in the United States.
L'Esperance, W. L. An Optimal Control of a State Econometric Model.
Martin, R. C. Legislation versus Administration: An Empirical Note on Federal Regional Development Programs.
Simonson, J. C. A Socioeconomic Analysis of Intercounty Variation in Hospital Service Capacity.
Weinberg, D. H. and Atkinson, R. Place Attachment and the Decision to Search for Housing.

History of Political Economy, Vol. 11, No. 2, Summer 1979

- **Bordo, M. D. and Landau, D.** The Pattern of Citations in Economic Theory, 1945–68: An Exploration towards a Quantitative History of Thought.
- **Ekelund, R. B., Jr. and Price, E. O., III.** Sir Edwin Chadwick on Competition and the Social Control of Industry: Railroads.
- **Grampp, W. D.** Adam Smith and the American Revolutionists.
- **Heilbroner, R. L.** Modern Economics as a Chapter in the History of Economic Thought.
- **Hennings, K. H.** George Darwin, Jevons, and the Rate of Interest.
- **Liebermann, Y.** Elements in Talmudic Monetary Thought.
- **Martin, D. T.** Alternative Views of Mengerian Entrepreneurship.
- **Oakley, A.** Aspects of Marx's *Grundrisse* as Intellectual Foundations for a Major Theme of *Capital*.

Reid, G. C. Forchheimer on Partial Monopoly.

Ifo-Studien, Vol. 23, No. 1/2, 1977

Arestis, P.; Frowen, S. F. and Karakitsos, E. Die reale Geldmenge in einer volkswirtschaftlichen Produktionsfunktion. (Real Money Balances in an Aggregate Production Function: The Case of the Federal Republic of Germany. With English summary.)

Batzer, E. Fundierung von Wettbewerbspolitik und -gesetzgebung durch die empirische Wirtschaftsforschung. (Investigating for Policy and Legislation Relating to the Competitiveness of Markets. With English summary.)

Bohnet, M. Instrumente der Entwicklungshilfe. (Instruments of Development Assistance. With English summary.)

Clauss, F. J. "Null-Wahrscheinlichkeit des allgemeinen Gesetzes"—ein Irrtum Poppers? Kritische Anmerkungen zur falsifikationslogischen Wissenschaftslehre. ("Zero-Probability of the General Law"—A Mistake of Popper? With English summary.)

Gerstenberger, W. Plandaten und Prognose der Investitionsausgaben. (Forecasting Capital Expenditures with Plan Data. (With English Summary.)

Lenk, R. Eine Kasuistik von Budgetkonzepten. (A Taxonomy of Budget Concepts. With English summary.)

Oppenländer, K. H. Privatwirtschaftliche Aktivitäten und die Rolle des Staates im Innovationsprozess. (Business Activities and the Role of Government in the Process of Innovation. With English summary.)

Ifo-Studien, Vol. 24, No. 1/2, 1978

Clement, W. Zum Informationsgehalt der empirischen Bildungsökonomik. (How Informative are the Economics of Education Empirically? With English summary.)

Leibfritz, W. Auf dem Weg zu Vollbeschäftigung und Preisstabilität—Die Thesen der "Mc Cracken Gruppe"

Naggl, W. Disaggregierte Schätzung des Konsums 1968/II–1975/IV. (Disaggregated Analysis of Consumption 1968/II–1975/IV. With English summary.)

Out, H. Probleme künftiger Investitionsentscheidungen von Luftverkehrsgesellschaften im Personenlinienverkehr. (Problems of Future Investment Decisions in Air Transport. With English summary.)

Schüler, K. W. Auswirkungen des investitionsinduzierten technischen Fortschritts auf das gesamtwirtschaftliche Wachstum. (Investment Induced Technical Progress: Effects on Macroeconomic Growth. With English summary.)

Strigel, W. H. Fehlendes Vertrauen als Wachstumsbremse: Ergebnisse und Folgerungen aus qualitativen Unternehmerbefragungen. (Lack of Confidence Slows Growth. With English summary.)

Uebe, G. Noch eine Bemerkung zur deutschen Produktionskonjunktur. (A Note on the Cyclical Properties of German Production. With English summary.)

Westerhoff, H.-D. Die Erklärung industrieller Anlageinvestitionen mit dynamischen Akzeleratormodellen. (With English summary.)

L'Impresa, Vol. 21, No. 1, 1979

Brandolese, A. and Giacomazzi, F. Come analizzare il ruolo strategico della produzione. (Analysis of the Strategic Role of Production. With English summary.)

van Dam, A. Transfer of Technology Revisited.

Gros-Pietro, G. M. and Gaibisso, A. M. L'industria delle macchine utensili: lo sviluppo si fonda sull'esportazione. (The Machine Tools Industry: Growth Based on Exports. With English summary.)

Nicoletti, B. Situazione e tendenze della tecnologia in Italia. (Situation and Trends in Technology in Italy. With English summary.)

Sethi, M. G. Esportazione, alcuni casi aziendali. (Exports, Some Individual Cases. With English summary.)

L'Impresa, Vol. 21, No. 2, 1979

Carlesi, A. I piani di settore privilegiano la grande dimensione aziendale? (Do Sectorial Plans Favour the "Size" Aspect of Business Organization? With English summary.)

Favotto, F. and Volpato, G. Verso l'impresa come "istituzione totale." (Towards the Company as a "Total Institution." With English summary.)

Rubbia, S. Come migliorare i costi generali ed indiretti con il budgeting a base zero. (The Improvement of Overhead and Indirect Costs with ZBB. With English summary.)

Indian Economic Journal, Vol. 26, No. 1, July–September 1978

Bharadwaj, R. and Nimbur, B., N. The Theory of Tax Effort and Tax Ratio Analysis: A Modified Roy Bahl Model.

Bhatia, H. L. Tax Devolutions in a Framework of Federal Resource Transfers: The Indian Case.

Devi, S. U. Relevance of Malthus.

Guha, C. K. Disparity Tax in a Mixed Economy.

Gupta, V. Some Aspects of Substituting an Ex-

penditure Tax for Income Tax.

Khosla, R. Malthus's Theory of Gluts: A Political-Economic View.

Mehta, B. C. and Menaria, R. Short-Run Incidence of Corporate Income Tax in India.

Mishra, G. P. Malthusian Economics of Growth and Development: A Critique.

Roy, H. N. Towards a Reappraisal of Malthus as an Analyst—An Overrated or an Underrated Economist?

Roychowdhury, K. C. Land, Labour and Accumulation: Malthus and the Underdeveloped Countries.

Sen, R. K. The Theory & Practice of Our Income Tax.

Singh, S. P. and Jain, S. K. Relevance of Malthus to the Population Problem of India.

Sinha, K. K. Theory of Property Taxation: Some Issues.

Sinha, P. K. Relevance of Malthus to Developing Economy.

Sury, M. M. Elasticity of Tax Revenue—Some Measurement Problems.

Upadhyaya, K. K. The Gospel of Saving According to Reverend Malthus.

Indian Economic Journal, Vol. 26, No. 2, October–December 1978

Bhattacharya, K. Financial Intermediation and Rural Development: Role of Co-operative Credit in Agricultural Development.

Bhole, L. M. Financial Structure for Rural Development: In Retrospect and Future Prospective.

Dasgupta, A. K. Relevance of Malthusian Economics.

Datar, M. K. Banking and Rural Development.

Gowda, M. V. S. Technology of Multinational Enterprises and Labour Absorption in Developing Countries.

Guru, D. D. Multinational Corporations and Developing Economies.

Jangid, S. Multinational Corporations.

Mukherjee, S. A Few Thoughts on Financial Intermediation and Rural Development in India.

Nigam, R. S. and Bhalla, V. K. International Monetary Developments and Transnational Corporations.

Pillai, P. M. Multinational Corporations in Indian Industries: A Study of Its Changing Dimensions of Concentration and Diversification, 1964–74.

Prasad, K. Financial Intermediaries and Rural Development.

Reddy, G. A. and Dakshinamurthy, D. Commercial Banking and Rural Development in India.

Sarkar, P. L. Transfer of Technology to Less Developed Countries: Indian Experience with Multinational Corporations.

Saxena, P. S. Multinationals and Developing Economies with Special Reference to India.

Sharan, V. Multinational Corporations and the Balance of Payments Problems in a Developing Host Country: An Indian Experience.

Sharma, R. D. Bank Credit and Agricultural Transformation in a Backward Region.

Sharma, S. B. Financial Intermediation and Rural Development.

Singh, S. and Singh, B. Some Aspects of Financial Intermediation by Institutional Agencies and Rural Development.

Subrahmanian, K. K. Multinational Corporations: Rapporteur's Report.

Upadhyay, K. S. Theory of Taxation.

Indian Economic Journal, Vol. 26, No. 3, January–March 1979

Adhvaryu, J. H. Financial Intermediation and Rural Development.

Borkar, V. V. The Theory of Taxation—From Neutrality to Optimality.

Jha, D. Relevance of Malthusian Economics.

Joseph, S. C. Relevance of Malthusian Economics.

Panikar, P. G. K. Multinational Enterprise in Pharmaceutical Industry and Less Developed Countries.

Sau, R. Technology, Growth and Transnational Corporation in India.

Sinha, C. Financial Intermediation and Rural Development.

Indian Economic Review, Vol. 13, No. 2, October 1978

Das Gupta, A. K. Birendranath Ganguli, 1902–1978.

Desai, N. Foreign Trade Regimes and Economic Development: Review Article.

Lahiri, A. K. Asset Structure of Indian Rural Households.

Pandit, V. An Analysis of Inflation in India, 1950–75.

Venkataramanan, L. S. and Prahaladachar, M. Study of Cropping Pattern Changes in Andhra Pradesh during 1950–1975.

Industrial and Labor Relations Review, Vol. 32, No. 3, April 1979

• **Barron, J. M. and Gilley, O. W.** The Effect of Unemployment Insurance on the Search Process.

Ferber, M. A. and Lowry, H. M. The Sex Differential in Earnings: A Further Reappraisal: Reply.

• **Gallagher, D. G. and Pegnetter, R.** Impasse Resolution under the Iowa Multistep Procedure.

- • **Gamm, S.** The Election Base of National Union Executive Boards.
- • **Halpin, T. C.** The Effect of Unemployment Insurance on Seasonal Fluctuations in Employment.
- • **Kalachek, E. D.; Raines, F. Q. and Larson, D.** The Determination of Labor Supply: A Dynamic Model.
- • **Northrup, H. R.; Wilson, J. T. and Rose, K. M.** The Twelve-Hour Shift in the Petroleum and Chemical Industries.
- • **Smith, R. S.** Compensating Wage Differentials and Public Policy: A Review.
- **Snyder, D. and Hudis, P. M.** The Sex Differential in Earnings: A Further Reappraisal: Comment.

Industrial and Labor Relations Review, Vol. 32, No. 4, July 1979

- • **Brett, J. M. and Goldberg, S. B.** Wildcat Strikes in Bituminous Coal Mining.
- • **Davis, C. E. and West, J. P.** Attitudinal Differences among Supervisors in the Public Sector.
- • **Kahn, L. M.** Unionism and Relative Wages: Direct and Indirect Effects.
- • **Katz, H. C.** The Municipal Budgetary Response to Changing Labor Costs: The Case of San Francisco.
- • **Leigh, D. E.** Unions and Nonwage Racial Discrimination.
- • **Osterman, P.** Sex Discrimination in Professional Employment: A Case Study.
- • **Smith, R. L. and Hopkins, A. H.** Public Employee Attitudes towards Unions.

Industrial Relations, Vol. 18, No. 2, Spring 1979

- **Anderson, J. C.** Bargaining Outcomes: An IR System Approach.
- **Ben-Porat, A.** Political Parties and Democracy in the Histadrut.
- **Cooke, W. N.** Turnover and Earnings: Some Empirical Evidence.
- **Garbarino, J. W. and Lawler, J.** Faculty Union Activity in Higher Education—1978.
- **Izraeli, D. N. and Gaier, K.** Sex and Interoccupational Wage Differences in Israel.
- **Jacoby, S.** The Origins of Internal Labor Markets in Japan.
- **Johnson, W. G.; Curington, W. P. and Cullinan, P. R.** Income Security for the Disabled.
- **Kahn, L. M.** Union Strength and Wage Inflation.
- **Ponak, A. M. and Fraser, C. R. P.** Union Activists' Support for Joint Programs.
- **Rose, J. B.** A Canadian View of Labor Relations in Construction.
- **Schwab, D. P. and Dyer, L.** Correlates of Faculty Salary Levels.
- **Subbarao, A. V.** Impasse Choice and Wages in the Canadian Federal Service.

International Labour Review, Vol. 118, No. 2, March–April 1979

- **Haulot, A.** The Staggering of Annual Holidays with Pay.
- **Holtsberg, C. P.** Effects of a New Feeder Road on Employment and Income Distribution: A Case Study of Thailand.
- • **Inoue, K.** Structural Changes and Labour Market Policies in Japan.
- **Mach, E. P.** Selected Issues on Health and Employment.
- **Mrachkov, V.** International Labour Conventions and Bulgarian Legislation.
- **Rudolf, T.** Occupational Safety and Health in Poland: Legislation, Supervision and Promotion.
- **Spitaels, G.** The Unemployment Absorption Programme in Belgium.
- **Witt, M.** Dangerous Substances and the US Worker: Current Practice and Viewpoints.

International Labour Review, Vol. 118, No. 3, May–June 1979

- **Bashir, K. M.** An Integrated System of Wages Statistics.
- **Bequele, A. and Freedman, D. H.** Employment and Basic Needs: An Overview.
- **Ducray, G.** Vocational Training Today: The Changing Relationship between Training and Employment.
- • **Edmonds, G. A.** The Construction Industry in Developing Countries.
- • **van Ginneken, W.** Socio-Economic Groups and Income Distribution in Mexico.
- **Olmsted, B.** Job Sharing: An Emerging Work-Style.
- • **Robinson, O.** Part-time Employment in the European Community.
- **Villars, C.** Social Security Standards in the Council of Europe: The ILO Influence.

International Monetary Fund Staff Papers, Vol. 26, No. 1, March 1979

- • **Aghevli, B. B. and Rodriguez, C. A.** Trade, Prices, and Output in Japan: A Simple Monetary Model.
- • **Bilson, J. F. O.** The "Vicious Circle" Hypothesis.
- • **Choudhry, N. N.** Measuring the Elasticity of Tax Revenue: A Divisia Index Approach.
- **Hwa, E. C.** Price Determination in Several International Primary Commodity Markets: A Structural Analysis.
- • **Morgan, D. R.** Fiscal Policy in Oil Exporting Countries, 1972–78.
- • **Tait, A. A.; Grätz, W. L. M. and Eichengreen,**

B. J. International Comparisons of Taxation for Selected Developing Countries, 1972–76.

International Monetary Fund Staff Papers, Vol. 26, No. 2, June 1979

- **Argy, V. and Salop, J.** Price and Output Effects of Monetary and Fiscal Policy under Flexible Exchange Rates.
- **Bilson, J. F. O.** Recent Developments in Monetary Models of Exchange Rate Determination.
- **Bond, M. E.** The World Trade Model: Invisibles.
- **Galbis, V.** Inflation and Interest Rate Policies in Latin America, 1967–76.

Salda, A. C. M. The International Monetary Fund, 1976–1977: A Selected Bibliography.

International Social Science Journal, Vol. 31, No. 1, 1979

Cangah, G. National Primary Socio-Economic Data Structures, IV: The Ivory Coast.

Mochmann, E. and Müller, P. J. Data Protection and Access to Social-Science Data.

Ohta, H. Language Barriers in Japan: An Economist's View.

Singh, Y. Constraints, Contradictions and Interdisciplinary Orientations: The Indian Context.

Journal of Accounting Research, Vol. 16, Supplement 1978

Abdel-Khalik, A. R. and McKeown, J. C. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk.

Abdel-Khalik, A. R. and McKeown, J. C. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: A Reply.

Adkerson, R. C. DAAM: The Demand for Alternative Accounting Measurements: Discussion.

Basu, J. Income Tax Implications of Various Methods of Accounting for Changing Prices: Discussion.

Benston, G. J. and Krasney, M. A. DAAM: The Demand for Alternative Accounting Measurements.

Bildersee, J. S. The Impact of Price-Level Adjustment in the Context of Risk Assessment and The Effect of General Price-Level Adjustments on the Predictive Ability of Financial Ratios: Discussion.

Boatsman, J. R. and Revsine, L. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: Discussion.

Buzby, S. L. and Falk, H. DAAM: The Demand for Alternative Accounting Measurements: Discussion.

Davidson, S. and Weil, R. L. Income Tax Implications of Various Methods of Accounting for Changing Prices.

Easman, W. S., Jr. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: Discussion.

Freeman, R. N. On the Association between Net Monetary Position and Equity Security Prices.

Ingberman, M. J. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: Discussion.

Ketz, J. E. The Effect of General Price-Level Adjustments on the Predictive Ability of Financial Ratios.

Oberrotman, A. M. Income Tax Implications of Various Methods of Accounting for Changing Prices: Discussion.

Patell, J. M. The Impact of Price-Level Adjustment in the Context of Risk Assessment and The Effect of General Price-Level Adjustments on the Predictive Ability of Financial Ratios: Discussion.

Short, D. G. The Impact of Price-Level Adjustment in the Context of Risk Assessment.

Treynor, J. L. On the Association between Net Monetary Position and Equity Security Prices: Discussion.

Watts, R. L. On the Association between Net Monetary Position and Equity Security Prices: Discussion.

Journal of Bank Research, Vol. 10, No. 1, Spring 1979

Anderson, C. R. Bank Forecasting: A Developmental-Group Approach.

Bellenger, D. N.; Robertson, D. H. and Greenberg, B. A. Female Attitudes toward the Use of Credit vs. Cash.

Clayman, C. F. and Severn, A. K. The Effect of Random Disturbances in Float on the Federal Funds Rate.

Guttentag, J. M. and Thomas, K. H. Branch Banking and Bank Structure: Some Evidence from Alabama.

Karna, A. Bank Holding Company Profitability: Nonbanking Subsidiaries and Financial Leverage.

Rose, J. T. Federal Reserve System Attrition since 1960.

Journal of Bank Research, Vol. 10, No. 2, Summer 1979

Benston, G. J. and Horsky, D. Redlining and the Demand for Mortgages in the Central City and Suburbs.

Courtney, J. F., Jr. Differentiating Capital Appreciation and Income in Portfolio Selection/Revision.

Evans, R. H. The Validity of Service and Situational Perceptions: A Caution.

Melnik, A. Demand Deposit Variability in Banks: A Time Series Analysis.
Murphy, N. B. Disclosure of the Problem Bank Lists: A Test of the Impact.
Olsen, L. M. and Lord, J. D. Market Area Characteristics and Branch Bank Performance.
Shin, T. S. and Lynge, M. J., Jr. Rural Banking Markets in Illinois: An Empirical Test.

Journal of Business, Vol. 52, No. 2, April 1979

• **Fama, E. F. and Schwert, G. W.** Inflation, Interest, and Relative Prices.
• **Kaplan, R. S. and Urwitz, G.** Statistical Models of Bond Ratings: A Methodological Inquiry.
• **Kon, S. J. and Jen, F. C.** The Investment Performance of Mutual Funds: An Empirical Investigation of Timing, Selectivity, and Market Efficiency.
• **Lustgarten, S. and Mendelowitz, A. I.** The Covariability of Industrial Concentration and Employment Fluctuations.
• **Qualls, P. D.** Market Structure and the Cyclical Flexibility of Price-Cost Margins.
• **Telser, L. G.** A Theory of Monopoly of Complementary Goods.

Journal of Comparative Economics, Vol. 3, No. 1, March 1979

Karp, G. and Yohe, G. W. The Optimal Linear Alternative to Price and Quantity Controls in the Multifirm Case.
Keren, M. The Incentive Effects of Plan Targets and Priorities in a Disaggregated Model.
Miller, J. B. Meade on Indicative Planning: A Review of Informational Problems.
Shlomowitz, R. Team Work and Incentives: The Origins and Development of the Butty Gang System in Queensland's Sugar Industry, 1891–1913.

Journal of Comparative Economics, Vol. 3, No. 2, June 1979

Bergson, A. Notes on the Production Function in Soviet Postwar Industrial Growth.
Camacho, A. Performance of Decentralized and Centralized Decision-Making Mechanisms over a Class of Linear Cases.
Green, D. W. Technology Transfer to the USSR: A Reply.
Murrell, P. Planning and Coordination of Economic Policy in Market Economies.
Muzondo, T. R. On the Theory of the Competitive Labor-Managed Firm under Price Uncertainty.
Toda, Y. Technology Transfer to the USSR: The Marginal-Productivity Differential and the Elasticity of Intra-Capital Substitution in Soviet Industry.
Weitzman, M. L. Technology Transfer to the USSR: An Econometric Analysis.

Journal of Consumer Research, Vol. 5, No. 4, March 1979

Ahmed, S. A. and Jackson, D. N. Psychographics for Social Policy Decisions: Welfare Assistance.
Bagozzi, R. P. and Van Loo, M. F. Fertility as Consumption: Theories from the Behavioral Sciences: Rejoinder.
Bourgeois, J. C. and Barnes, J. G. Viability and Profile of the Consumerist Segment.
Hauser, J. R. and Urban, G. L. Assessment of Attribute Importances and Consumer Utility Functions: von Neumann-Morgenstern Theory Applied to Consumer Behavior.
Kiser, C. V. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences."
Kroeber-Riel, W. Activation Research: Psychobiological Approaches in Consumer Research.
Leibenstein, H. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences."
Namboodiri, N. K. Comment on "Fertility as Consumption:: Theories from the Behavioral Sciences."
Pekelman, D. and Sen, S. K. Measurement and Estimation of Conjoint Utility Functions.
Scanzoni, J. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences."
Turchi, B. A. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences."

Journal of Consumer Research, Vol. 6, No. 1, June 1979

Churchill, G. A., Jr. and Moschis, G. P. Television and Interpersonal Influences on Adolescent Consumer Learning.
Hirschman, E. C. Differences in Consumer Purchase Behavior by Credit Card Payment System.
Kasulis, J. J.; Lusch, R. F. and Stafford, E. F., Jr. Consumer Acquisition Patterns for Durable Goods.
Ladd, G. W. and Zober, M. Operationalizing Economic Models of Demand for Product Characteristics: Comment.
McNeill, D. L. and Wilkie, W. L. Public Policy and Consumer Information: Impact of the New Energy Labels.
Morgan, K. J.; Metzen, E. J. and Johnson, S. R. An Hedonic Index for Breakfast Cereals.
Murphy, P. E. and Staples, W. A. A Modernized Family Life Cycle.
Ratchford, B. T. Operationalizing Economic

Models of Demand for Product Characteristics.

Rogers, R. D. Commentary on "The Neglected Variety Drive."

Shimp, T. A. and Dyer, R. F. The Pain-Pill-Pleasure Model and Illicit Drug Consumption.

Journal of Developing Areas, Vol. 12, No. 3, April 1978

Clawson, D. L. Intravillage Wealth and Peasant Agricultural Innovation.

Fleuret, P. C. and Fleuret, A. K. Fuelwood Use in a Peasant Community: A Tanzanian Case Study.

Forsyth, D. J. C. and Solomon, R. F. Restrictions on Foreign Ownership of Manufacturing Industry in a Less Developed Country: The Case of Ghana.

Krane, D. Longitudinal Patterns of Centralization and Development: Testing Theories of Government Organization.

Schutjer, W. A. Agricultural Development Policy and the Demographic Transition.

Journal of Development Economics, Vol. 6, No. 1, March 1979

Barnum, H. N. and Squire, L. An Econometric Application of the Theory of the Farm-Household.

Bell, C. The Behaviour of a Dual Economy under Different 'Closing Rules'

Bruno, M. Income Distribution and the Neoclassical Paradigm: Introduction to a Symposium.

Lal, D. Indian Export Incentives.

Lipton, M. 'Perverse' Responses by Factor Users to Factor Cost Changes: Need Policy Advisors Worry?

Lluch, C. Models of Employment and Income Distribution.

Michaely, M. Exports and Growth: A Reply.

Monson, T. D. and Pursell, G. G. The Use of DRCs to Evaluate Indigenization Programs: The Case of the Ivory Coast.

Taylor, L. and Lysy, F. J. Vanishing Income Redistributions: Keynesian Clues about Model Surprises in the Short Run.

Journal of Development Studies, Vol. 15, No. 2, January 1979

Adams, D. W. and Nehman, G. I. Borrowing Costs and the Demand for Rural Credit.

Blomqvist, A. G. Urban Unemployment and Optimal Tax Policy in a Small, Open Dual Economy.

Franco, G. R. Domestic Credit and the Balance of Payments in Ghana.

Giles, B. D. Economists in Government: The Case of Malawi.

Higgins, B. Development Economics in the United States: A Rejoinder.

Higgins, B. Development Economics in the United States: A Comment.

Lam, N. V. Incidence of Agricultural Export Taxation in Papua New Guinea.

Love, J. A Model of Trade Diversification Based on the Markowitz Model of Portfolio Analysis.

Nafziger, E. W. Development Economics in the United States: Reply.

Nayyar, R. Rural Poverty in Bihar, 1961–62 to 1970–71.

Journal of Econometrics, Vol. 9, No. 3, February 1979

- **Appelbaum, E.** Testing Price Taking Behavior.
- **Belsley, D. A.** On the Computational Competitiveness of Full-Information Maximum-Likelihood and Three-Stage Least-Squares in the Estimation of Nonlinear, Simultaneous-Equations Models.
- **Gupta, Y. P. and Maasoumi, E.** Ommitted Variables, Variability of Estimated Parameters and the Appearance of Autocorrelated Disturbances.
- **Hendry, D. F.** The Behaviour of Inconsistent Instrumental Variables Estimators in Dynamic Systems with Autocorrelated Errors.
- **Klein, R. W.** Optimal Instruments When the Disturbances are Small.

Lancaster, T. Prediction from Binary Choice Models: A Note.

- **Phillips, P. C. B.** The Sampling Distribution of Forecasts from a First-Order Autoregression.
- **Reinsel, G.** FIML Estimation of the Dynamic Simultaneous Equations Model with ARMA Disturbances.
- **Schmidt, P. and Lovell, C. A. K.** Estimating Technical and Allocative Inefficiency Relative to Stochastic Production and Cost Frontiers.

Journal of Econometrics, Vol. 10, No. 1, April 1979

- **Berzeg, K.** The Error Components Model: Conditions for the Existence of the Maximum Likelihood Estimates.
- **Buse, A.** Goodness-of-Fit in the Seemingly Unrelated Regressions Model: A Generalization.
- **Farebrother, R. W.** Estimation with Aggregated Data.
- **Gourieroux, C. and Monfort, A.** On the Characterization of a Joint Probability Distribution by Conditional Distributions.
- **Guilkey, D. K. and Schmidt, P.** Some Small Sample Properties of Estimators and Test Statistics in the Multivariate Logit Model.
- **Neftçi, S. N.** Modeling the Price Side of Econometric Models: An Analysis of the Underlying Hypotheses.
- **Nelson, H. L., Jr. and Granger, C. W. J.** Experi-

ence with Using the Box-Cox Transformation when Forecasting Economic Time Series.

- **Srivastava, V. K. and Dwivedi, T. D.** Estimation of Seemingly Unrelated Regression Equations: A Brief Survey.
- **Swamy, P. A. V. B. and Mehta, J. S.** Estimation of Common Coefficients in Two Regression Equations.
- **Taub, A. J.** Prediction in the Context of the Variance-Components Model.
- **Toyoda, T. and Wallace, T. D.** Pre-Testing on Part of the Data.
- **Wills, J.** Technical Change in the U.S. Primary Metals Industry.

Journal of Economics and Business, Vol. 31, No. 3, Spring/Summer 1979

Barry, C. B. and Radcliffe, R. C. Bayesian Modeling of Alternative Specifications in Portfolio Analysis.

Gallagher, D. G. and Hackleman, E. C. Isoquants, Collective Bargaining, and Public School Resource Allocation.

Hagerman, R. L. and Ruland, W. The Accuracy of Management Forecasts and Forecasts of Simple Alternative Models.

Hawawini, G. A. and Michel, P. A. An Assessment of Risk in Thinner Markets: The Belgian Case.

King, A. T. Estimation of a Linear Expenditure System for the United States in 1973.

Lovins, W. G.; Johnson, K. H. and Shannon, D. S. Effects of Differential Tax Rates on Realized Returns from Portfolios Formed via Markowitz Allocation.

McCafferty, S. Wage Dispersion and Job Search Behavior.

McKenzie, J. A. Direct Earnings and Induced Deposit Effects of Variable-Rate Mortgages.

Oppenheimer, M. Time as a Scarce Resource in Economic Planning.

Sickles, R. C.; Schmidt, P. and Witte, A. D. An Application of the Simultaneous Tobit Model: A Study of the Determinants of Criminal Recidivism.

Tapon, F. and Vander Weide, J. Effectiveness of Regulation in the Electric Utility Industry.

Journal of Economic History, Vol. 39, No. 2, June 1979

- **Berlow, R. K.** The Sailing of the "Saint Esprit"
- **Chamberlin, C.** Bulk Exports, Trade Tiers, Regulation, and Development: An Economic Approach to the Study of West Africa's "Legitimate Trade."

Cohen, J. S. Conflict on the Left: Marxist Economists and the Friendly Enemy.

Curran, C. and Johnston, J. The Antebellum Money Market and the Economic Impact of the Bank War: A Comment.

- **Field, A. J.** Economic and Demographic Determinants of Educational Commitment: Massachusetts, 1855.
- **Fraundorf, M. N.** The Labor Force Participation of Turn-of-the-Century Married Women.
- **Gregory, P. R.** The Russian Balance of Payments, the Gold Standard, and Monetary Policy: A Historical Example of Foreign Capital Movements.

Olmstead, A. L. The Diffusion of the Reaper: One More Time!

- **Overton, M.** Estimating Crop Yields from Probate Inventories: An Example from East Anglia, 1585–1735.

Sushka, M. E. The Antebellum Money Market and the Economic Impact of the Bank War: A Reply.

Journal of Economic Issues, Vol. 13, No. 2, June 1979

Burch, P. H., Jr. Ownership and Control of American Corporations: Comment.

Carroll, T. M.; Ciscil, D. H. and Chisholm, R. K. The Market as a Commons: An Unconventional View of Property Rights.

Craypo, C. Markets: Actual and Potential: Comment.

Cypher, J. M. The Transnational Challenge to the Corporate State.

Dagum, C. Methods and Data in Economic Inquiry: Comment.

Davidson, L. S. Large Changes: Pitfalls in Econometric Practice.

Dugger, W. M. The Reform Method of John R. Commons.

Edwards, C. D. The Multimarket Enterprise and Economic Power: Remarks upon Receipt of the Veblen–Commons Award.

Felton, J. R. Markets: Actual and Potential: Comment.

Georgescu-Roegen, N. Methods in Economic Science.

Grossack, I. M. The Corporate State: Its Manifestations and Containments: Comment.

Hill, L. E. Methods and Data in Economic Inquiry: Comment.

Hoffman, A. C. Ownership and Control of American Corporations: Comment.

Kottke, F. Six Misconceptions of Procompetition Policy.

Kotz, D. M. The Significance of Bank Control over Large Corporations.

Leonard, W. N. Ownership and Control of American Corporations: Comment.

Loescher, S. M. Limiting Corporate Power.

Lovett, W. A. A Problem of Imagination: National Policy toward Multibank Integration.

Martin, D. D. Our Changing Order.
Martinson, O. B. and Campbell, G. R. Social Network Analysis: Suggested Applications to Economic Control.
Nelson, P. B. Contracts between a Firm and Its Constituents during Bankruptcy Crises.
Nowotny, K. Private Property: With or without Power.
Peterson, R. D. Clarence E. Ayres Memorial Session: Nonmarket Corporate Control Networks: Comment.
Reinemer, V. Stalking the Invisible Investor.
Samuels, W. J. Clarence E. Ayres Memorial Session: Nonmarket Corporate Control Networks: Comment.
Smith, R. E. A Theory for the Administered Price Phenomenon.
Sobel, I. Adam Smith: What Kind of Institutionalist Was He?
Stevens, R. W. The Corporate State: Its Manifestations and Containments: Comment.
Taliaferro, R. T. Clarence E. Ayres Memorial Session: Nonmarket Corporate Control Networks: Comment.

Journal of Economic Literature, Vol. 17, No. 2, June 1979

Boland, L. A. A Critique of Friedman's Critics.
Comanor, W. S. and Wilson, T. A. The Effect of Advertising on Competition: A Survey.
Leibenstein, H. A Branch of Economics is Missing: Micro-Micro Theory.

Journal of Economic Studies, Vol. 6, No. 1, May 1979

Abbott, G. C. Recent Developments in the International Monetary System and Their Implications for International Economic Relations.
Baker, A. J. Growth and Valuation in 'Managerial' Theory: An Alternative View.
Currie, L. Is There an Urban Bias? Critique of Michael Lipton's *Why Poor People Stay Poor.*
Dumas, L. J. Armament, Disarmament and National Security: A Theoretical Duopoly Model of the Arms Race.
Hargreaves-Heap, S. P. The Post-War International Business Cycle.
Stein, L. Dependence Theories and Underdevelopment.

Journal of Economic Theory, Vol. 19, No. 2, December 1978

• **Calvo, G. A.** On the Indeterminacy of Interest Rates and Wages with Perfect Foresight.
Daniel, T. E. Pitfalls in the Theory of Fairness—Comment.
• **Gale, D. M.** The Core of a Monetary Economy without Trust.
• **Green, J. and Laffont, J.-J.** Satisfactory Mechanisms for Environments with Consumption Lower Bounds.
• **Guesnerie, R. and Laffont, J.-J.** Taxing Price Makers.
Hartfiel, D. J. Some Error Estimates in Matrix Economic Models.
• **Jaynes, G. D.** Equilibria in Monopolistically Competitive Insurance Markets.
• **Johansen, L.** On the Theory of Dynamic Input–Output Models with Different Time Profiles of Capital Construction and Finite Life-Time of Capital Equipment.
Kramer, G. H. Robustness of the Median Voter Result.
• **Miyao, T.** A Probabilistic Model of Location Choice with Neighborhood Effects.
• **Müller, H. and Schweizer, U.** Temporary Equilibrium in a Money Economy.
Nermuth, M. Minimal Conditions for Upper-Hemicontinuity of the Choice Correspondence.
• **Novshek, W. and Sonnenschein, H. F.** Cournot and Walras Equilibrium.
Patel, N. R. and Subrahmanyam, M. G. Utility Theory and Participation in Unfair Lotteries.
Pope, R. D. and Just, R. E. A General Equilibrium Model of Production with a Random Marginal Rate of Substitution.
Richelson, J. T. A Characterization Result for the Plurality Rule.
• **Sakai, Y.** A Simple General Equilibrium Model of Production: Comparative Statics with Price Uncertainty.
• **Schweizer, U.** A Spatial Version of the Nonsubstitution Theorem.
• **Shorrocks, A.** Income Inequality and Income Mobility.
• **Ulph, D.** On Labour Supply and the Measurement of Inequality.
• **Weymark, J. A.** On Pareto-Improving Price Changes.

Journal of Economic Theory, Vol. 20, No. 1, February 1979

• **Cass, D.; Okuno, M. and Zilcha, I.** The Role of Money in Supporting the Pareto Optimality of Competitive Equilibrium in Consumption-Loan Type Models.
Cheng, H.-C. Linear Economies Are "Gross Substitute" Systems.
• **Cohen, L.** Cyclic Sets in Multidimensional Voting Models.
• **Kalai, E.; Postlewaite, A. and Roberts, J.** A Group Incentive Compatible Mechanism Yielding Core Allocations.
• **Kreps, D. M. and Porteus, E. L.** Temporal von

Neumann-Morgenstern and Induced Preferences.

Sandberg, I. W. Correction to "A Note on Market Equilibrium with Fixed Supply"

Schmeidler, D. A Bibliographical Note on a Theorem of Hardy, Littlewood, and Polya.

• **Welch, R. L.** The Representation of Shadow Values in Resource Allocation Teams.

Yun, K. K. On the Existence of a Unique and Stable Market Equilibrium.

Journal of Economic Theory, Vol. 20, No. 2, April 1979

Boylan, E. S. On the Avoidance of Extinction in One-Sector Growth Models.

• **Harris, M. and Raviv, A.** Optimal Incentive Contracts with Imperfect Information.

Kim, K. H. and Roush, F. W. Characterization of Certain Choice Functions.

• **Kwon, Y. K.; Fellingham, J. C. and Newman, D. P.** Stochastic Dominance and Information Value.

• **Little, J. T.** Indirect Preferences.

• **Makowski, L.** Value Theory with Personalized Trading.

• **Richter, M. K.** Duality and Rationality.

Zajac, E. E. Dupuit-Marshall Consumer's Surplus, Utility, and Revealed Preference.

Journal of Energy and Development, Vol. 4, No. 2, Spring 1979

Al-Chalabi, F. and Al-Janabi, A. Optimum Production and Pricing Policies.

Dailami, M. Inflation, Dollar Depreciation, and OPEC's Purchasing Power.

El Serafy, S. The Oil Price Revolution of 1973–1974.

Jaidah, A. M. Downstream Operations and the Development of OPEC Member Countries.

Mead, W. J. An Economic Analysis of Crude Oil Price Behavior in the 1970s.

Noreng, Ø. Friends or Fellow Travelers? The Relationship of Non-OPEC Exporters with OPEC.

Ortiz, R. G. The World Energy Outlook in the 1980s and the Role of OPEC.

Pindyck, R. S. Some Long-Term Problems in OPEC Oil Pricing.

Shihata, I. F. I. OPEC Aid, the OPEC Fund, and Cooperation with Commercial Development Finance Sources.

Journal of Environmental Economics and Management, Vol. 6, No. 1, March 1979

Abelson, P. W. Property Prices and the Value of Amenities.

Beavis, B. Optimal Pollution in the Presence of Adjustment Costs.

Rinaldi, S.; Soncini-Sessa, R. and Whinston, A. B. Stable Taxation Schemes in Regional Environmental Management.

Sarhan, M. E.; Howitt, R. E. and Moore, C. V. Pesticide Resistance Externalities and Optimal Mosquito Management.

Thompson, W. A., et al. Evaluation of Alternative Forest System Management Policies: The Case of the Spruce Budworm in New Brunswick.

Journal of Environmental Economics and Management, Vol. 6, No. 2, June 1979

Fischel, W. A. Determinants of Voting on Environmental Quality: A Study of a New Hampshire Pulp Mill Referendum.

Hochman, E. and Zilberman, D. Two-Goal Environmental Policy: An Integration of Micro and Macro ad hoc Decision Rules.

McConnell, K. E. and Sutinen, J. G. Bioeconomic Models of Marine Recreational Fishing.

Mendelsohn, R. and Orcutt, G. An Empirical Analysis of Air Pollution Dose-Response Curves.

Plourde, C. Diagrammatic Representations of the Exploitation of Replenishable Natural Resources: Dynamic Iterations.

Yaron, D. A Model for the Analysis of Seasonal Aspects of Water Quality Control.

Journal of Finance, Vol. 34, No. 2, May 1979

Aliber, R. Z. New Techniques for Assessing International Risk: Discussion.

Benninga, S. Capital Market Theory: Discussion.

Benninga, S. General Equilibrium with Financial Markets: Existence, Uniqueness, and Implications for Corporate Finance.

Bhattacharya, S. Financial Markets and Business Finance: Discussion.

Bierwag, G. O. and Khang, C. An Immunization Strategy Is a Minimax Strategy.

Buser, S. A. Multiperiod Financial Models: Discussion.

Castanias, R. P., II. Macroinformation and the Variability of Stock Market Prices.

Chen, A. H. and Kim, E. H. Theories of Corporate Debt Policy: A Synthesis.

Cooper, I. A. and Carleton, W. T. Dynamics of Borrower-Lender Interaction: Partitioning Final Payoff in Venture Capital Finance.

Fielitz, B. D. Empirical Research on Capital Markets: Discussion.

Fisk, C. and Rimlinger, F. Nonparametric Estimates of LDC Repayment Prospects.

Fromm, G. and Ciccolo, J. "q" and the Theory of Investment.

Goldman, M. B.; Sosin, H. B. and Shepp, L. A. On Contingent Claims That Insure Ex-post Optimal Stock Market Timing.

Goldman, M. B. Anti-Diversification or Optimal Programmes for Infrequently Revised Portfolios.

Goodman, S. H. Foreign Exchange Rate Forecasting Techniques: Implications for Business and Policy.

Hamada, R. S. Financial Theory and Taxation in an Inflationary World: Some Public Policy Issues.

Ingersoll, J. Multiperiod Financial Models: Discussion.

Jordan, J. L. Monetary Policy: Assessing the Burns Years: Discussion.

Kon, S. J. and Lau, W. P. Specification Tests for Portfolio Regression Parameter Stationarity and the Implications for Empirical Research.

Lombra, R. E. Monetary Policy: Assessing the Burns Years: Discussion.

Long, J. B., Jr. State-of-the-Art Studies in Financial Theory: Discussion.

Malkiel, B. G.; von Furstenberg, G. M. and Watson, H. S. Expectations, Tobin's q, and Industry Investment.

Malkiel, B. G. The Capital Formation Problem in the United States.

Mayer, T. Monetary Policy: Assessing the Burns Years: Discussion.

Pettit, R. R. Empirical Research on Capital Markets: Discussion.

Pierce, J. L. The Political Economy of Arthur Burns.

Poole, W. Burnsian Monetary Policy: Eight Years of Progress?

Reinhart, W. J. The Channels of Influence of Tobin-Brainards "q" on Investment: Discussion.

Schwartz, E. S. State-of-the-Art Studies in Financial Theory: Discussion.

Scott, J. H., Jr. The Tax Effects of Investment in Marketable Securities on Firm Valuation.

Thompson, R. Financial Markets and Business Finance: Discussion.

Journal of Finance, Vol. 34, No. 3, June 1979

• **Bowman, R. G.** The Theoretical Relationship between Systematic Risk and Financial (Accounting) Variables.

Burt, J.; Kaen, F. R. and Booth, G. G. Foreign Exchange Market Efficiency under Flexible Exchange Rates: Reply.

Ederington, D. H. Aspects of the Production of Significant Financial Research.

Eubank, A. A., Jr. and Zumwalt, J. K. An Analysis of the Forecast Error Impact of Alternative Beta Adjustment Techniques and Risk Classes.

• **Ferri, M. G. and Jones, W. H.** Determinants of Financial Structure: A New Methodological Approach.

Firth, M. The Relationship between Stock Market Returns and Rates of Inflation.

• **Garbade, K. D. and Silber, W. L.** Structural Organization of Secondary Markets: Clearing Frequency, Dealer Activity and Liquidity Risk.

• **Garcia, G. and Pak, S.** The Ratio of Currency to Demand Deposits in the United States.

Goldman, M. B. and Beja, A. Market Prices vs. Equilibrium Prices: Returns' Variance, Serial Correlation, and the Role of the Specialist.

Grube, R. C.; Joy, O. M. and Panton, D. B. Market Responses to Federal Reserve Changes in the Initial Margin Requirement.

Holmes, A. B. and Kwast, M. L. Interest Rates and Inflationary Expectations: Tests for Structural Change, 1952–1976.

Joehnk, M. D. and Kidwell, D. S. Comparative Costs of Competitive and Negotiated Underwritings in the State and Local Bond Market.

Kidwell, D. S. and Trzcinka, C. A. The Risk Structure of Interest Rates and the Penn-Central Crisis.

Laber, G. The Effect of Bond Refunding on Shareholder Wealth: Comment.

Latané, H. A. and Jones, C. P. Standardized Unexpected Earnings—1971–77.

Livingston, M. The Effect of Bond Refunding on Shareholder Wealth: Comment.

Miles, M. A. and Wilford, D. S. Foreign Exchange Market Efficiency under Flexible Exchange Rates: Comment.

• **Praetz, P. D.** Testing for a Flat Spectrum on Efficient Market Price Data.

Sealey, C. W., Jr. Credit Rationing in the Commercial Loan Market: Estimates of a Structural Model under Conditions of Disequilibrium.

Singer, R. F. Endogenous Marginal Income Tax Rates, Investor Behavior and the Capital Asset Pricing Model.

• **Smidt, S.** A Bayesian Analysis of Project Selection and of Post Audit Evaluations.

Yawitz, J. B. and Anderson, J. A. The Effect of Bond Refunding on Shareholder Wealth: Reply.

Journal of Financial Economics, Vol. 6, No. 4, December 1978

Elton, E. J. and Gruber, M. J. Taxes and Portfolio Composition.

Langetieg, T. C. An Application of a Three-Factor Performance Index to Measure Stockholder Gains from Merger.

• **Miller, M. H. and Scholes, M. S.** Dividends and Taxes.

Morgan, I. G. Market Proxies and the Conditional Prediction of Returns.

Journal of Financial Economics, Vol. 7, No. 1, March 1979

- **Geske, R.** The Valuation of Compound Options.
- **Goldman, M. B. and Sosin, H. B.** Information Dissemination, Market Efficiency and the Frequency of Transactions.

Kim, E. H.; Lewellen, W. G. and McConnell, J. J. Financial Leverage Clienteles: Theory and Evidence.

- **Mayers, D. and Rice, E. M.** Measuring Portfolio Performance and the Empirical Content of Asset Pricing Models.

Journal of Human Resources, Vol. 14, No. 1, Winter 1979

- **Borjas, G. J.** Job Satisfaction, Wages, and Unions.
- **Burkhauser, R. V.** The Pension Acceptance Decision of Older Workers.
- **Corcoran, M. and Duncan, G. J.** Work History, Labor Force Attachment, and Earnings Differences between the Races and Sexes.

Graves, P. E. Income and Migration Revisited.

King, A. G. A Note on Lucas's Critique of the Human Capital Model.

- **Levy, F.** The Labor Supply of Female Household Heads, or AFDC Work Incentives Don't Work Too Well.
- **Link, C. R. and Ratledge, E. C.** Student Perceptions, I.Q. and Achievement.

Moffitt, R. A. Cumulative Effective Tax Rates and Guarantees in Low-Income Transfer Programs.

- **Quinn, J. F.** Wage Differentials among Older Workers in the Public and Private Sectors.

Journal of Human Resources, Vol. 14, No. 2, Spring 1979

- **Baumer, D. C.; Van Horn, C. E. and Marvel, M.** Explaining Benefit Distribution in CETA Programs.
- **Blau, F. D. and Hendricks, W. E.** Occupational Segregation by Sex: Trends and Prospects.

Bloch, F. E. Labor Turnover in U.S. Manufacturing Industries.

Bloch, F. E. and Smith, S. P. Human Capital and Labor Market Employment: Errata and Extension.

- **Cooney, R. S.** Intercity Variations in Puerto Rican Female Participation.

Jones, E. B. and Long, J. E. Human Capital and Labor Market Employment: Additional Evidence for Women.

Link, C. R. and Settle, R. F. Labor Supply Responses of Married Professional Nurses: New Evidence.

- **Moon, M.** The Incidence of Poverty among the Aged.
- **Smith, R. S.** The Impact of OSHA Inspections on Manufacturing Injury Rates.

Solon, G. Labor Supply Effects of Extended Unemployment Benefits.

Journal of International Business Studies, Vol. 9, No. 3, Winter 1978

Agodo, O. The Determinants of U.S. Private Manufacturing Investments in Africa.

Anderson, R. D.; Engledow, J. L. and Becker, H. Advertising Attitudes in West Germany and the U.S.: An Analysis over Age and Time.

van Dam, A. Toward a Different Role for Multinationals in the Third World.

Fowler, D. J. Transfer Prices and Profit Maximization in Multinational Enterprise Operations.

Franko, L. G. Foreign Direct Investment in Less Developed Countries: Impact on Home Countries.

Jeannet, J.-P. and Liander, B. Some Patterns in the Transfer of Technology within Multinational Corporations.

Lombard, F. J. Screening Foreign Direct Investment in LDCs: Empirical Findings of the Colombian Case (1967–1975)

Root, F. R. and Ahmed, A. A. The Influence of Policy Instruments on Manufacturing Direct Foreign Investment in Developing Countries.

Swannack-Nunn, S. U.S. Business and the Transfer of Intermediate Technology: Agricultural Equipment and the Developing Nations.

Toyne, B. Procurement-Related Perceptions of Corporate-Based and Foreign-Based Purchasing Managers.

Journal of International Economics, Vol. 9, No. 2, May 1979

- **Arad, R. W. and Hillman, A. L.** Embargo Threat, Learning and Departure from Comparative Advantage.
- **Deardorff, A. V.** Weak Links in the Chain of Comparative Advantage.
- **Drabicki, J. Z. and Takayama, A.** An Antinomy in the Theory of Comparative Advantage.
- **Ethier, W. J.** The Theorems of International Trade in Time-Phased Economies.
- **Kaminow, I. P.** Economic Stability under Fixed and Flexible Exchange Rates.
- **Pelcovits, M. D.** The Equivalence of Quotas and Buffer Stocks as Alternative Stabilization Policies.
- **Ruffin, R. J.** Tariffs, the Balance of Payments, and the Demand for Money.
- **Smith, M. A. M.** Intertemporal Gains from Trade.
- **Uekawa, Y.** The Theory of Effective Protection,

Resource Allocation and the Stolper-Samuelson Theorem: The Many-Industry Case.
- • **Wegge, L. L.** Conjugate Small Country Production Equilibrium Concepts.
- • **Young, L.** Ranking Optimal Tariffs and Quotas for a Large Country under Uncertainty.

Journal of Law and Economics, Vol. 22, No. 1, April 1979

- • **Ault, D. E. and Rutman, G. L.** The Development of Individual Rights to Property in Tribal Africa.
- • **Cheung, S. N. S.** Rent Control and Housing Reconstruction: The Postwar Experience of Prewar Premises in Hong Kong.
- • **Dahlman, C. J.** The Problem of Externality.
- • **Ippolito, R. A.** The Effects of Price Regulation in the Automobile Insurance Industry.

Lustgarten, S. Gains and Losses from Concentration: A Comment.
- • **Pashigian, B. P.** Occupational Licensing and the Interstate Mobility of Professionals.

Peltzman, S. The Causes and Consequences of Rising Industrial Concentration: A Reply.
- • **Scherer, F. M.** The Causes and Consequences of Rising Industrial Concentration.
- • **Temin, P.** The Origin of Compulsory Drug Prescriptions.
- • **Wolf, C., Jr.** A Theory of Nonmarket Failure: Framework for Implementation Analysis.

Journal of Mathematical Economics, Vol. 6, No. 1, March 1979

Alkan, A. U. The Efficient Paths to Infinity in Closed Leontief Models.

Aubin, J.-P. Monotone Evolution of Resource Allocations.

Billera, L. J. and Weber, R. J. Dense Families of Low-Complexity Attainable Sets of Markets.

Fujimoto, T. Nonlinear Generalization of the Frobenius Theorem: A Symmetric Approach.

Greenberg, J.; Shitovitz, B. and Wieczorek, A. Existence of Equilibria in Atomless Production Economies with Price Dependent Preferences.

Hurwicz, L. and Richter, M. K. An Integrability Condition with Applications to Utility Theory and Thermodynamics.

McFadden, D. A Note on the Computability of Tests of the Strong Axiom of Revealed Preference.

Mitra, T. Identifying Inefficiency in Smooth Aggregative Models of Economic Growth: A Unifying Criterion.

Schecter, S. On the Structure of the Equilibrium Manifold.

Shilony, Y. A Note on the Presentation and Solution of Infinite Games.

Wiesmeth, H. Regular Competitive Equilibria in Disequilibrium Economics.

Journal of Mathematical Economics, Vol. 6, No. 2, July 1979

Azoff, E. and Bird, C. On the Formation of Coalitions in Infinite Player Games.

Balasko, Y. Economies with a Finite but Large Number of Equilibria.

Dubey, P. and Shubik, M. Bankruptcy and Optimality in a Closed Trading Mass Economy Modelled as a Non-Cooperative Game.

Friedman, D. Money-Mediated Disequilibrium Processes in a Pure Exchange Economy.

Gay, A. A Note on Lemma 1 in Bergstrom's 'How to Discard "Free Disposability" at no Cost.'

Guesnerie, R. General Statements on Second Best Pareto Optimality.

Rashid, S. The Relationship between Measure-Theoretic and Non-Standard Exchange Economies.

Todd, M. J. A Note on Computing Equilibria in Economies with Activity Analysis Models of Production.

Journal of Monetary Economics, Vol. 5, No. 1, January 1979

Abel, A., et al. Money Demand during Hyperinflation.

Anderson, P. A. Rational Expectations Forecasts from Nonrational Models.

Auernheimer, L. Adaptive-Regressive Expectations and the Price Level: A Reformulation.

Bordo, M. D. and Schwartz, A. J. Clark Warburton: Pioneer Monetarist.

Frenkel, J. A. Further Evidence on Expectations and the Demand for Money during the German Hyperinflation.

Friedman, B. M. Optimal Expectation and the Extreme Information Assumptions of 'Rational Expectations' Macromodels.

Garbade, K. D. and Silber, W. L. The Payment System and Domestic Exchange Rates: Technological versus Institutional Change.

Lawrence, R. Z. Within and between-Country Variances in Inflation Rates: Are They Similar?

Sargent, T. J. A Note on Maximum Likelihood Estimation of the Rational Expectations Model of the Term Structure.

Tanner, J. E. Are the Lags in the Effects of Monetary Policy Variable?

Journal of Monetary Economics, Vol. 5, No. 2, April 1979

Boyer, R. S. Sterilization and the Monetary Approach to Balance of Payments Analysis.

Bruno, M. Price and Output Adjustment: Micro Foundations and Aggregation.

Butkiewicz, J. L. Outside Wealth, the Demand for Money and the Crowding Out Effect.

Cukierman, A. Rational Expectations and the Role of Monetary Policy: A Generalization.

Drazen, A. The Optimal Rate of Inflation Revisited.

Ethier, W. Expectations and the Asset-Market Approach to the Exchange Rate.

Hall, R. E. A Theory of the Natural Unemployment Rate and the Duration of Employment.

McCallum, B. T. and Whitaker, J. K. The Effectiveness of Fiscal Feedback Rules and Automatic Stabilizers under Rational Expectations.

Ratti, R. A. Stochastic Reserve Losses and Bank Credit Expansion.

Journal of Monetary Economics, Vol. 5, No. 3, July 1979

Baltensperger, E. The 1978 Annual Report of the Bank for International Settlements: An Examination of Its Economic Analysis and Policy Recommendations.

Büttler, H.-J., et al. A Multiplier Model for Controlling the Money Stock.

Christ, C. F. The Economic Policy Proposals of the Joint Economic Committee of the 94th and 95th U.S. Congresses, 1975 through September of 1978.

De Grauwe, P. The 1978 Annual Report of the Bank for International Settlements: The Economics of International Fine Tuning.

Johannes, J. M. and Rasche, R. H. Predicting the Money Multiplier.

Laidler, D. Recent Macroeconomic Policy Proposals of the Joint Economic Committee of the U.S. Congress: A Critique.

Santomero, A. M. The Role of Transaction Costs and Rates of Return on the Demand Deposit Decision.

Willett, T. D. The Joint Economic Committee on International Economic Issues: A Review Article.

Zwick, B. Interest Rate Variability, Government Securities Dealers, and the Stability of Financial Markets.

Journal of Monetary Economics, Supplement 1979, Vol. 10

Clarkson, K. W. and Meiners, R. E. Institutional Changes, Reported Unemployment, and Induced Institutional Changes.

Gordon, R. J. A Comment on the Perloff and Wachter [A Production Function–Nonaccelerating Inflation Approach to Potential Output: Is Measured Potential Output Too High?] Paper.

de Leeuw, F. A Comment on the Meiselman and Roberts [The Political Economy of the Congressional Budget Office] Paper.

McCulloch, R. North-South Economic and Political Relations: How Much Change?

Meiselman, D. I. and Roberts, P. C. The Political Economy of the Congressional Budget Office.

Nelson, C. R. Discussion of the Zellner [Causality and Econometrics] and Schwert [Tests of Causality: The Message in the Innovations] Papers.

Oi, W. Y. Government Labor Policies and Equilibrium Unemployment Rates: A Comment on Clarkson and Meiners.

Perloff, J. M. and Wachter, M. L. [A Production Function–Nonaccelerating Inflation Approach to Potential Output: Is Measured Potential Output Too High?]: Reply.

Perloff, J. M. and Wachter, M. L. A Production Function–Nonaccelerating Inflation Approach to Potential Output: Is Measured Potential Output Too High?

Phaup, M. The Relationship between Economics and Politics: A Response to Meiselman and Roberts.

Plosser, C. I. and Schwert, G. W. Potential GNP: Its Measurement and Significance: A Dissenting Opinion.

Rivlin, A. M. A Comment on the Meiselman and Roberts [The Political Economy of the Congressional Budget Office] Paper.

Schwert, G. W. Tests of Causality: The Message in the Innovations.

Sims, C. A. A Comment on the Papers by Zellner [Causality and Econometrics] and Schwert [Tests of Causality: The Message in the Innovations].

Tatom, J. A. The Meaning and Measurement of Potential Output: A Comment on the Perloff and Wachter Results.

Zellner, A. Rejoinder to Nelson and Sims [Causality and Econometrics].

Zellner, A. Causality and Econometrics.

Journal of Money, Credit, and Banking, Vol. 11, No. 2, May 1979

Akhtar, M. A.; Putnam, B. H. and Wilford, D. S. Fiscal Constraints, Domestic Credit, and International Reserve Flows in the United Kingdom, 1952–71: A Note.

Amihud, Y. A Possible Error in the Expectations Theory: A Note.

Ang, J. S.; Chua, J. H. and Bowling, C. H. The Profiles of Late-Paying Consumer Loan Borrowers: An Exploratory Study: A Note.

• **Bhattacharya, S.** Welfare and Savings Effects of Indexation.

Bildersee, J. S. Bid-Ask Price Spreads in the

Agency Bond Market: A Note.

- • **Friedman, B. M.** Substitution and Expectation Effects on Long-Term Borrowing Behavior and Long-Term Interest Rates.
- **Heinevetter, B.** Liquidity Creation in the Euromarkets: A Comment.
- • **Jonung, L.** Knut Wicksell and Gustav Cassel on Secular Movements in Prices.
- • **Mitchell, D. W.** Explicit and Implicit Demand Deposit Interest: Substitutes or Complements from the Bank's Point of View?
- **Nguyên, A. N.** Monetary Policy, Inflation, and Devaluation: A Case Study of the Philippines: A Note.
- • **Phillips, L. and Pippenger, J.** The Term Structure of Interest Rates in the MIT-PENN-SSRC Model: Reality or Illusion?
- **Savage, D. T. and Humphrey, D. B.** Branching Laws and Banking Offices: A Comment.
- **Tanner, J. E.** An Empirical Investigation of Tax Discounting: A Comment.
- **Tullock, G.** When Is Inflation Not Inflation: A Note.

Journal of Political Economy, Vol. 87, No. 2, April 1979

- **Allen, J.** Anti Sealing as an Industry.
- • **Ashenfelter, O. and Smith, R. S.** Compliance with the Minimum Wage Law.
- • **Berglas, E.** Preferential Trading Theory: The *n* Commodity Case.
- • **Bryant, J. and Wallace, N.** The Inefficiency of Interest-bearing National Debt.
- • **Deardorff, A. V.** One-Way Arbitrage and Its Implications for the Foreign Exchange Markets.
- • **Fischer, S.** Anticipations and the Nonneutrality of Money.
- **Fisher, F. M. and Temin, P.** The Schumpeterian Hypothesis: Reply.
- • **Floyd, J. E. and Hynes, J. A.** Capital Immobility, Adjustment Costs, and the Theoretical Foundations of Income-Expenditure Models.
- **Frenkel, J. A. and Levich, R. M.** Covered Interest Arbitrage and Unexploited Profits? Reply.
- • **Hylland, A. and Zeckhauser, R.** The Efficient Allocation of Individuals to Positions.
- • **Krugman, P.** A Model of Innovation, Technology Transfer, and the World Distribution of Income.
- **McCallum, B. T.** On the Observational Inequivalence of Classical and Keynesian Models.
- **McCormick, F.** Covered Interest Arbitrage: Unexploited Profits? Comment.
- **Nelson, C. R.** Granger Causality and the Natural Rate Hypothesis.
- **Rodriguez, C. A.** A Comment on Fisher and Temin on the Schumpeterian Hypothesis.
- **Sargent, T. J.** Causality, Exogeneity, and Natural Rate Models: Reply to C. R. Nelson and B. T. McCallum.

Journal of Political Economy, Vol. 87, No. 3, June 1979

- • **Auerbach, A. J.** Inflation and the Choice of Asset Life.
- • **Bardhan, P. K.** Wages and Unemployment in a Poor Agrarian Economy: A Theoretical and Empirical Analysis.
- • **Baumol, W. J.** Quasi Optimality: The Price We Must Pay for a Price System.
- • **Benjamin, D. K. and Kochin, L. A.** Searching for an Explanation of Unemployment in Interwar Britain.
- • **Blomquist, G. C.** Value of Life Saving: Implications of Consumption Activity.
- • **Golub, S. S. and Finger, J. M.** The Processing of Primary Commodities: Effects of Developed-Country Tariff Escalation and Developing-Country Export Taxes.
- • **Lucas, R. E. B.** Sharing, Monitoring, and Incentives: Marshallian Misallocation Reassessed.
- • **Miles, M. A.** The Effects of Devaluation on the Trade Balance and the Balance of Payments: Some New Results.
- • **Olson, L.; White, H. and Shefrin, H. M.** Optimal Investment in Schooling when Incomes are Risky.
- **Warren, R. S., Jr. and Strauss, R. P.** A Mixed Logit Model of the Relationship between Unionization and Right-to-Work Legislation: Comment.
- • **Wilson, C. A.** Anticipated Shocks and Exchange Rate Dynamics.

Journal of Portfolio Management, Vol. 5, No. 3, Spring 1979

- **Arnott, R. D.** Relative Strength Revisited.
- **Baker, D. A.** Investment Performance and the Range of Choice.
- **Edelman, R. B.** A New Approach to Ratings on Utility Bonds.
- **Fogler, H. R. and Joehnk, M.** Deep Discount Bonds: How Well do They Perform?
- **Jacquillat, B. and Roll, R.** French Index Linked Bonds for U.S. Investors?
- **Meehan, J. P. and Hayes, E. M.** Hidden Dangers in Modern Portfolio Theory.
- **Munnell, A. H.** The Troubled Future of Private Pension Plans.
- **Osteryoung, J. S. and Blevins, D. R.** A New Approach to Ratings on State GO's.
- **Richards, T. M., Jr.** The Role of the Active Manager for the Pension Fund.
- **Rudd, A.** Divestment of South African Equities: How Risky?

Stevenson, R. A. and Rozeff, M. Are the Backwaters of the Market Efficient?

Timbers, S. B. Equity Research after Modern Portfolio Theory.

Journal of Portfolio Management, Vol. 5, No. 4, Summer 1979

Bidwell, C. M., III. A Test of Market Efficiency: SUE/PE.

Cooper, G. Saving Estate Taxes for the du Ponts.

D'Ambrosio, C. A. Risks and Returns in Continuous Option Writing: Comment.

Dawson, F. C. Risks and Returns in Continuous Option Writing: Reply.

Ferri, M. G. How do Call Provisions Influence Bond Yields?: Reply.

Frankfurter, G.; Stevenson, R. and Young, A. Option Spreading: Theory and an Illustration.

Fuller, R. J. Programming the Three-Phase Dividend Discount Model.

Grant, D. Market Timing: Strategies to Consider.

Laber, G. How do Call Provisions Influence Bond Yields? A Comment.

Lane, M. Fixed-Income Managers Must Time the Market.

Leibowitz, M. L. Goal Oriented Bond Portfolio Management.

Richards, R. M. and Martin, J. D. Revisions in Earnings Forecasts: How Much Response?

Robinson, J. Unwinding the Stagflation Puzzle.

Saulnier, R. J. The President's Economic Report: A Critique.

Schweser, C.; Soldofsky, R. M. and Schneeweis, T. The Meaning of the Mean.

Williamson, J. P. How Well Are College Endowment Funds Managed?

Journal of Post Keynesian Economics, Vol. 1, No. 3, Spring 1979

• **Beltran-Del-Rio, A.; Hamrin, R. D. and Speiser, S. M.** Increasing Capitalism's Capitalists—A Challenge for Economists.

• **Bodkin, R. G., et al.** Ex Ante Forecasting with Several Econometric Models of the Canadian Economy.

• **Colander, D.** Incomes Policies: MIP, WIPP, and TIP.

• **Cornwall, J.** Economic Growth: Two Paradigms.

• **Kaldor, N.** An Introduction to "A Note on the General Theory"

de Largentaye, J. A Note on the *General Theory of Employment, Interest and Money*.

• **Masoner, M.** The Allocation of Time: An Extension.

• **Smith, P.** Keynes' Finance Motive: Some Empirical Evidence.

Wald, H. P. Comment: Normative Premises in Regulatory Theory.

• **Weintraub, S.** Generalizing Kalecki and Simplifying Macroeconomics.

Journal of Post Keynesian Economics, Vol. 1, No. 4, Summer 1979

• **Brown, W. M.** Employment vs. Unemployment Data as Macro-Policy Guides.

Davidson, P. and Weintraub, S. Notes on Current Issues.

• **Eichner, A. S.** A Post-Keynesian Short-Period Model.

• **Moody, R. E.** Economists and Economic Change.

• **Pesek, B. P.** A Note on the Theory of Permanent Income.

• **Pierson, J. H. G.** EPI: Economic Performance Insurance.

• **Rotheim, R. J.** On the Nature of Production and Contracts in an Arrow-Debreu Economy.

• **Rousseas, S.** Rosa Luxemburg and the Origins of Capitalist Catastrophe Theory.

• **Schubert, W.** On the Proper Role of Government in the Dual Economy.

• **Seidman, L. S.** TIP: Feasibility and Equity.

• **Tuchscherer, T.** Keynes' Model and the Keynesians: A Synthesis.

• **Van Order, R.** On the Monetarist Money Income Model.

Weintraub, S. The Naked and the Nude: Professor Brems on Post Keynesians.

Journal of Public Economics, Vol. 11, No. 2, April 1979

Allingham, M. Inequality and Progressive Taxation: An Example.

Brueckner, J. K. Property Values, Local Public Expenditure and Economic Efficiency.

• **Dixit, A.** Price Changes and Optimum Taxation in a Many-Consumer Economy.

Green, J. R. and Sheshinski, E. Approximating the Efficiency Gain of Tax Reforms.

• **Habib, J. and Lerman, R. I.** Options in Income Support for the Aged: A Critique of the Two-Tier Approach.

• **Harris, R. G. and MacKinnon, J. G.** Computing Optimal Tax Equilibria.

Radian, A. On the Differences between the Political Economy of Introducing and Implementing Tax Reforms—Israel, 1975–1978.

• **Whalley, J.** Uniform Domestic Tax Rates, Trade Distortions and Economic Integration.

White, M. J. Measuring the Benefits of Environmental and Public Policy Changes in Cities: Short-term and Long-term Considerations.

Journal of Regional Science, Vol. 19, No. 2, May 1979

- **Barnard, J. R. and Ballman, R. J., Jr.** Tests of Regional Intersectoral Flows Analysis Multipliers.
- **Baxter, M. J.** The Application of Logit Regression Analysis to Production-Constrained Gravity Models.
- **Caceres, L. R.** On the Interregional Multiplier Effects of Changes in Transport Costs.
- **Hogarty, T. F.** Regional Interfuel Substitution by Electric Utilities in the United States: A Comment.
- **Hwang, M.-j.** A Model of Spatial Price Discrimination for the Pricing Schedule of Coal.
- **Martin, R. C.** Federal Regional Development Programs and U.S. Problem Areas.
- **Pipkin, J. S. and Ballou, D. P.** A Model of Central City and Suburban Trip Termination Patterns.
- **Round, J. I.** Compensating Feedback Effects in Interregional Input-Output Models.
- **Uri, N. D.** Regional Interfuel Substitution by Electric Utilities in the United States: A Reply.
- **Weber, R. E.** A Synthesis of Methods Proposed for Estimating Gross State Product.
- **Yu, E. S. H.** On the Theory of Interregional Wage Differentials and Technical Change.

Journal of Risk and Insurance, Vol. 46, No. 1, March 1979

- **Balcer, Y. and Sahin, I.** Probabilistic Models for Pension Benefits.
- **Chang, L. and Fairley, W. B.** Pricing Automobile Insurance under Multivariate Classification of Risks: Additive versus Multiplicative.
- **Cross, M. L. and Hershbarger, R. A.** Price Discrimination in the Homeowners Program.
- **Pritchett, S. T. and Brewster, B. Y., Jr.** Comparison of Ordinary Life Operating Expense Ratios for Agency and Nonagency Insurers.
- **Rivers, R. and Crumbley, D. L.** The Timing Problem for the Unified Estate and Gift Tax.
- **Skipper, H., Jr.** The Privacy Implications of Insurers' Information Practices.
- **Steves, B.; McWhorter, A., Jr. and Fisher, L.** An Empirical Analysis of the Capacity Crisis in Medical Malpractice Insurance.
- **Witt, R. C.** An Economic Appraisal of Territorial Pricing Issues in Automobile Insurance.

Journal of Royal Statistical Society, Series A, Vol. 142, Part 1, 1979

- **Holt, D. and Smith, T. M. F.** Post Stratification.

Journal of Transport Economics and Policy, Vol. 13, No. 1, January 1979

- **Bayliss, B. T.** Transport in the European Communities.
- **Beesley, M. E.** Competition and Supply in London Taxis.
- **Gwilliam, K. M.** Institutions and Objectives in Transport Policy.
- **Harrison, A.** The Track Costs Issue.
- **Heggie, I. G.** Economics and the Road Programme.
- **Jennings, A.** Determining a Global Sum for Taxation of Road Users.
- **Rathery, A.** Some Recent Thinking on Freight Transport Pricing in France and Switzerland.
- **Sharp, C. D.** The Environmental Impact of Transport and the Public Interest.

Journal of Urban Economics, Vol. 6, No. 2, April 1979

- **Anas, A. and Moses, L. N.** Mode Choice, Transport Structure and Urban Land Use.
- **Chinloy, P.** Hedonic Price and Depreciation Indexes for Residential Housing Again.
- **Fallis, G.** Factor Substitution, Employment Density and Suburbanization.
- **Graves, P. E.** A Life-Cycle Empirical Analysis of Migration and Climate, by Race.
- **Kim, T. J.** Alternative Transportation Modes in an Urban Land Use Model: A General Equilibrium Approach.
- **Palmquist, R. B.** Hedonic Price and Depreciation Indexes for Residential Housing: A Comment.
- **Robson, A. J. and Scheffman, D. T.** Urban Structure, Gas Prices, and the Demand for Transportation.
- **Rosen, H. S.** Owner Occupied Housing and the Federal Income Tax: Estimates and Simulations.
- **Schafer, R.** Racial Discrimination in the Boston Housing Market.
- **Sveikauskas, L.** Interurban Differences in the Innovative Nature of Production.

Journal of Urban Economics, Vol. 6, No. 3, July 1979

- **Brueckner, J. K.** Spatial Majority Voting Equilibria and the Provision of Public Goods.
- **Clotfelter, C. T.** Urban School Desegregation and Declines in White Enrollment: A Reexamination.
- **Dunn, L. F.** Measuring the Value of Community.
- **Graves, P. E. and Linneman, P. D.** Household Migration: Theoretical and Empirical Results.
- **Henderson, J. V.** Comment on Internalizing Pollution Externalities.
- **Mathur, V. K.** Some Unresolved Issues in the Location Theory of the Firm.
- **Miyao, T.** Dynamic Stability of an Open City with Many Household Classes.
- **Rose-Ackerman, S.** Market Models of Local Gov-

ernment: Exit, Voting and the Land Market.

Seskin, E. P. An Analysis of Some Short-Term Health Effects of Air Pollution in the Washington, D.C. Metropolitan Area.

Kansantaloudellinen Aikakauskirja, Vol. 74, No. 4, 1978

Hjerppe, R. Henkilökohtainen kulutusvero—tulevaisuuden vaihtoehto? (Expenditure Tax—An Alternative in the Future. With English summary.)

Paavela, P. Finanssipolitiikan linjat. (The Targets of Fiscal Policy. With English summary.)

Kansantaloudellinen Aikakauskirja, Vol. 75, No. 1, 1979

Hjerppe, R. Nettoverotuksen ankaruudesta. (On the Burden of Net Taxation. With English summary.)

Kanniainen, V. Rahoitusmarkkinoiden toiminnasta ja kehittämisestä Suomessa. (The Functioning and Development of the Financial Market in Finland. With English summary.)

Morri, P. Eläkkeistä ja niiden rahoittamisesta. (On Pensions and the Financing of Pensions. With English summary.)

Ristimäki, J. Kykenemmenkö johdonmukaiseen teollisuuspolittiseen linjanvetoon? (Is Finland Able to Assume a Consistent Industrial Policy Strategy? With English summary.)

Kansantaloudellinen Aikakauskirja, Vol. 75, No. 2, 1979

Ali-Melkkilä, M. Suomalaisen pankkikilpailun piirteitä. (Aspects of Interbank Competition in Finland. With English summary.)

Grönlund, P. Työ on jatko-opiskelua.

Hämäläinen, H. Taloudellisen tutkimuksen arkipäivää Puolassa.

Korkman, S. Finanssipolitiikka ja työttömyysongelma. (Fiscal Policy and the Unemployment Problem. With English summary.)

Pekkarinen, J. and Suvanto, A. 1970-luvun talouspolitiikan keskeiset vaiheet. (Economic Policy in the 1970's. With English summary.)

Väisänen, J. Finanssipolitiikan Arkhimedeen laki? (Archimedes' Law in Fiscal Policy? With English summary.)

Kokumin-Keizai Zasshi, Vol. 139, No. 3, March 1979

Ichihara, K. Dynamish orientierte Betriebssoziologie. (In Japanese.)

Maruya, R. Zur gegenwartigen Vermögenspolitischen Diskussion. (In Japanese.)

Mizuno, T. Development of the Small Business Theory. (In Japanese.)

Yamaguchi, M. Population Growth and Economic Development in Japan: A Comparison of Some Econometric Analyses. (In Japanese.)

Yoshihara, H. Information Processing and Ownerships Policy in Multinational Enterprises. (In Japanese.)

Kokumin-Keizai Zasshi, Vol. 139, No. 4, April 1979

Fatatsugi, Y. On Reciprocal Shareholdings. (In Japanese.)

Nakatani, T. Price Competition and Technical Choice. (In Japanese.)

Takahashi, S. An Examination of Page's Fertility Model by Using Japanese and Swedish Fertility Data. (In Japanese.)

Tani, T. Control of Divisional Investment Performance. (In Japanese.)

Toyoda, T. Phillips Curves: A Survey. (In Japanese.)

Yoshihara, H. Strategy and Ownership of Multinational Enterprises—Electric Machinery Industry. (In Japanese.)

Konjunkturpolitik, Vol. 25, No. 1, 1979

• **Genosko, J.** Die Arbeitslosenquote—ein Konzept mit Mängeln Dargestellt am Beispiel Ostbayerns. (The Rate of Unemployment—An Imperfect Concept Illustrated by the Example of Eastern Bavaria. With English summary.)

Müller-Heine, K. Struktuelle Arbeitslosigkeit—Abgrenzung und Faktoren. (Structural Unemployment—Delimitation and Factors. With English summary.)

• **Tomann, H.** Gesamtwirtschaftliche Wirkungen der Umweltpolitik. (Economic Impact of Pollution Control Policies. With English summary.)

Kredit und Kapital, Vol. 12, No. 2, 1979

Fazio, A. Monetary Policy in Italy from 1970 to 1978.

Feder, G. and Just, R. E. Optimal International Borrowing Capital Allocation and Credit-Worthiness Control.

Heinevetter, B. Liquiditätsschaffung und-vermittlung an den Eurowährungsmärkten und die Struktur des internationalen Bankensystems. (Creation and Supply of Liquidity on the Eurocurrency Markets and the Structure of the International Banking System. With English summary.)

Krümmel, H.-J. Bedingungen für die Schwankungen der Goldpreise im Spiegel der Marktberichterstattung. (Conditions Governing Gold Price Fluctuations as Reflected in Market Reports. With English summary.)

Rudolph, B. Zinsänderungsrisiken und die Strategie der durchschnittlichen Selbstliquidationsperiode. (The Risks of Interest-Rate Changes and the Strategy of the Self-Liquidation Period. With English summary.)

Kyklos, Vol. 32, No. 1/2, 1979

- **Bernholz, P.** Flexible Exchange Rates, Employment and Inflation in a Small Country.
- **Blattner, N.** Hindernisse auf dem Weg zur Vollbeschäftigung. (Obstructions in the Road to Full Employment.)
- **Blümle, G.** Wirtschaftliche Entwicklung und personelle Einkommensverteilung in Entwicklungsländern. (Economic Development and Personal Income Distribution in Developing Countries.)
- **Borner, S.** Who Has the Right Policy Perspective, the OECD or Its Monetarist Critics?
- **Frey, B. S.** Economic Policy by Constitutional Contract.
- **Frey, R. L. and Hill, W.** Volkswirtschaftslehre und Betriebswirtschaftslehre: Entwicklungstendenzen und Kooperationsmöglichkeiten. (Economics and Business Administration: Trends and Possibilities of Cooperation.)
- **Gahlen, B.** Preis- und Mengeneffekte in kurzund langfristiger Analyse. (The Effects of Price and Quantity in a Short- and Long-Term Analysis.
- **Gerfin, H.** Arbeitslosigkeitstypen und Einkommensverteilung in der "Neuen Makroökonomischen Theorie." (Types of Unemployment and Income Distribution in the "New Macroeconomics.")
- **Giersch, H.** Märkte und Unternehmen in der wachsenden weltwirtschaft. (Markets and Business Enterprises in the Growing World Economy.)
- **Guth, H.; Kugler, P. and Zehnder, R.** Zu einigen neuen Entwicklungen in der Schätzung von Time-Lag-Strukturen. (On Some New Developments in the Calculation of Time-Lag Structures.)
- **König, H.** Zur Bildung von Preiserwartungen: Ein multivariates log-lineares Wahrscheinlichkeitsmodell. (The Formation of Price Expectations: A Multivariate Log-Linear Probability Model.)
- **Krauss, M. B. and Baumol, W. J.** Guest Workers and Income-Transfer Programs Financed by Host Governments.
- **Krelle, W.** The Way out of Unemployment: Change of Group Behaviour.
- **Krengel, R.** Die Anfänge der Input-Output-Rechnung des DIW für die Bundesrepublik Deutschland. (The Beginnings of the Input-Output Calculation of the German Institute for Economic Research for the Federal Republic of Germany.)
- **Machlup, F.** Stocks and Flows of Knowledge.
- **Maddison, A.** Per Capita Output in the Long Run.
- **Neumark, F.** Wandlungen in der Beurteilung eingebauter Steuerflexibilität. (Changes in the Appraisal of Built-in Tax Flexibility.)
- **Ott, A. E.** Über die Definition eines Verteilungszieles. (On the Definition of a Distribution Target.)
- **Ramser, H. J.** Keynessche Inflations- und Kaldorsche Verteilungstheorie. (Keynes' Inflation Model and Kaldor's Distribution Theory.)
- **Riese, H.** Theoretische Grundlagen stabilitätspolitischer Kontroversen. (The Theoretical Foundations of Stabilization Controversies.)
- **Rogge, P. G.** Weltwirtschaftliche Faktorallokatin als Problem einzelstaatlicher Wirtschaftspolitik. (The Allocation of World Resources as a Problem of National Economic Policy.)
- **Rothschild, K. W.** Aussenhandlestheorie, Aussenhandelspolitik und Anpassungsdruck. (Foreign Trade Theory, Foreign Trade Policy and the Adjustment Problem.)
- **Schefold, B.** Capital, Growth, and Definitions of Technical Progress.

Schröder, D. Mittel- und Langfristige Perspektiven gleichgewichtiger Arbeitsmarktentwicklung.

- **Stolz, P.** Neue Wirtschaftsgeschichte und Neue Politische Oekonomie: Vom Vergleich zum Versuch einer Synthese. (New Economic History and New Political Economy: From a Comparison to an Attempt of Synthesis.)
- **Streissler, E.** Growth Models as Diffusion Processes.
- **Timmermann, M.** Zur Integration sozio-ökonomischer Gesamtrechungen. (On the Integration of Socio-Economic National Accounting Systems.)
- **von Weizsäcker, C. C.** Das eherne Zinsgesetz. (The Iron Law of Interest.)
- **Widmaier, H. P.** Zur Theorie der Evolution oszialer Bedürfnisse. (On the Theory of the Evolution of Social Needs.)

Labor History, Vol. 20, No. 2, Spring 1979

Andrew, W. D. Factionalism and Anti-Communism: Ford Local 600.

Keeran, R. R. Communist Influence in the Automobile Industry, 1920–1933: Paving the Way for an Industrial Union.

Nash, A. Local 1707, CSAE: Facets of a Union in the Non-Profit Field.

Nash, G. B. The Failure of Female Factory Labor in Colonial Boston.

Land Economics, Vol. 55, No. 1, February 1979

- **Doebele, W. A.; Grimes, O. F., Jr. and Linn, J. F.** Participation of Beneficiaries in Financing Urban Services: Valorization Charges in Bogotá, Colombia.

Foster, H. S., Jr. and Beattie, B. R. Urban Residential Demand for Water in the United States.

Gaskins, D. W., Jr. and Haring, J. R., Jr. A Note on Unilateral Withholding.

- **Gordon, I. M. and Knetsch, J. L.** Consumer's Surplus Measures and the Evaluation of Resources.

Koo, A. Y. C. Monopoly and Monopsony Powers of Landlords in Developing Countries.

- **Mehay, S. L.** Intergovernmental Contracting for Municipal Police Services: An Empirical Analysis.
- **Salmanzadeh, C. and Jones, G. E.** An Approach to the Micro Analysis of the Land Reform Program in Southwestern Iran.
- **Seitz, W. D., et al.** Economic Impacts of Soil Erosion Control.
- **Truran, J. A. and Fox, R. W.** Resource Productivity of Landowners and Sharecroppers in the Cariri Region of Ceará, Brazil.
- **YoungDay, D. J. and Fight, R. D.** Natural Resource Policy: The Distributional Impact on Consumers of Changing Output Prices.

Liiketaloudellinen Aikakauskirja, Vol. 28, No. 1, 1979

Gahmberg, H. On the Control of Control Systems.

Hannu, K. and Pekka, L. Yritysmallit: Rakentamisen ja käytön lähtökohtatekijöitä. (Corporate Models: A Framework and Basis for Building and Use. With English summary.)

Kanniainen, V. Inflaatio, Pääomakustannus ja investointikysyntä. (Inflation, Cost of Capital and Investment Demand. With English summary.)

Nissilä, J. On the Case for Corporate Diversification.

Tell, B. and Wallenius, J. A Survey of Multiple-Criteria Decision Methods and Applications: Utility Theory and Mathematical Programming.

Lloyds Bank Review, No. 132, April 1979

Dunning, J. H. The UK's International Direct Investment Position in the Mid-1970s.

Lansley, S. What Hope for the Poor?

Lovegrove, P. A. Mergers—Time to Turn the Tide: Comment.

O'Brien, D. Mergers—Time to Turn the Tide: Reply.

Pratten, C. Building Societies versus Equities.

Lloyds Bank Review, No. 133, July 1979

Emminger, O. The Exchange Rate as an Instrument of Policy.

Kilroy, B. Housing Finance—Why So Privileged?

Neild, R. Government Borrowing by Deposit.

Malayan Economic Review, Vol. 23, No. 2, October 1978

Bird, P. J. W. N. The Price Elasticity of Supply of Tin: 1961–1975.

Bird, G. The Choice between Balance of Payments Adjustment and Financing: A Graphical Exposition.

Drabble, J. H. Malayan Rubber Smallholdings in the Inter-War Period: Some Preliminary Findings.

Ishimine, T. Organization, Ideology and Performance of China's International Trade.

McLeod, R. N. On Middlemen.

Narayanan, S. A Note on Internal Migration and Regional Growth Trends in Peninsular Malaysia, 1957–1970.

Ramakrishnan, M. K. and Rao, V. V. B. A Note on the Decomposition of the Gini Ratio.

Siraj, A. Industrial Land Use in Singapore: The Present Pattern and Some Future Needs.

Management Accounting, Vol. 60, No. 11, May 1979

Ferguson, L. W. An Accountant Profiles a Sports Franchise.

Ginter, E. M. Communications and Cost-Benefit Aspects of Employee Safety.

Hazelton, W. A. How to Cost Labor Settlements.

McFarlane, K. A. W. Tracking Inflation in Your Company.

Most, K. S. A New Method of Accounting for Oil and Gas Producers.

Management Accounting, Vol. 60, No. 12, June 1979

Chiu, J. S. and Chang, D. L. Management Accounting in Taiwan.

Choi, F. D. S. Political Risk—An Accounting Challenge.

Malkoff, A. R. Foreign Acquisition Analysis: A Suggested Approach.

Sale, J. T. and Carroll, K. B. Tax Planning Tools for the Multinational Corporation.

Tse, P. S. Evaluating Performance in Multinationals.

Whitt, J. D. Motivating Lower-Level Management of Mexican Affiliates.

Yamakawa, T. T. How the Strong Yen Influenced Financial Reporting in Japan.

Management Accounting, Vol. 61, No. 1, July 1979

Bailes, J. C.; Nielsen, J. F. and Wendell, S. Capital Budgeting in the Forest Products Industry.

Bryant, K., Jr. How a Rental Apartment Was Converted to a Condominium.

Ching, D. F. How to Isolate Medicare Costs.

Jablonsky, S. F. and Dirsmith, M. W. Is Financial Reporting Influencing Internal Decision Making?

Millar, J. A. Hospital Equipment Leasing: The Breakeven Discount Rate.

Nestor, O. W. and Riddell, A. J. A Home Health Care Agency Cures Itself.

Matekon, Vol. 15, No. 1, Fall 1978

Aivazian, S. A. Multidimensional Socioeconomic Statistical Analysis.

Fridman, A. A. Modern Trends in Discrete Optimization.

Kaganovich, I. Z. An Integrated Analysis of Territorial and Production Problems Taking Ecological Factors into Account.

Matekon, Vol. 15, No. 2, Winter 1978–79

Arushanian, I. I., et al. A Stationary Optimization Model for the Development of a Capital-Intensive Branch.

Iaremenko, I. V. Use of an Interbranch Interaction Model for Forecasting.

Kovshov, G. N. Transport in a System of Models for Perspective Planning of the Economy.

Michigan Academician, Vol. 11, No. 4, Spring 1979

Jensen, A. L. Yield per Recruit of Whitefish (Coregonus Clupeaformis) in Northern Lake Michigan.

Swartz, R. D. Regional Shopping Malls: Strengths and Weaknesses as Suburban Foci.

Mondo Aperto, Vol. 33, No. 1, February 1979

Bongiovanni, G. Investimenti di capitali italiani all'estero.

Bongiovanni, G. La tutela del brevetto e i marchi d'impresa.

Kriz, M. A. Il nuovo regime dell'oro e le realtà monetarie. (The New Gold Standard and the Monetary Situation. With English summary.)

Ozdas, M. N. Vent'anni di collaborazione scientifica in seno alla Nato. (20 Years of Scientific Cooperation within NATO. With English summary.)

Monthly Labor Review, Vol. 102, No. 4, April 1979

• **Frumkin, R. and Schmitt, D.** Pension Improvements since 1974 Reflect Inflation, New U.S. Law.

Johnson, B. L. Changes in Marital and Family Characteristics of Workers, 1970–78.

Kochan, T. A. How American Workers View Labor Unions.

• **Olsen, J. G.** Labor and Material Requirements for New School Construction.

• **Personick, V. A.** Industry Output and Employment: BLS Projections to 1990.

• **Ryscavage, P. M.** BLS Labor Force Projections: A Review of Methods and Results.

Monthly Labor Review, Vol. 102, No. 5, May 1979

• **Bingham, B. J.** Labor Requirements for College-Housing Construction.

Job, B. C. The Black Labor Force during the 1975–78 Recovery.

Kassalow, E. M. Labor–Management Relations and the Coal Industry.

Martin, B. Industrial Relations in Spain: A Status Report.

Millen, B. H. Providing Assistance to Displaced Workers.

• **Moy, J.** Recent Labor Market Trends in Nine Industrial-Nations.

Stamas, G. D. Long Hours and Premium Pay, May 1978.

Monthly Labor Review, Vol. 102, No. 6, June 1979

• **Borum, J. D.** Wage Increases of 1978 Absorbed by Inflation.

• **Howell, C.; Thomas, W. and Lamb, E.** First-Quarter Food and Fuel Prices Propel Inflation Rate to 5-Year High.

Ryscavage, P. More Wives in the Labor Force have Husbands with 'Above-Average' Incomes.

• **Sheifer, V. J.** Cost-of-Living Adjustment: Keeping up with Inflation?

Stelluto, G. L. Federal Pay Comparability: Facts to Temper the Debate.

Young, A. M. Median Earnings in 1977 Reported for Year-Round Full-Time Workers.

National Institute Economic Review, No. 88, May 1979

• **Osborn, D. R. and Teal, F.** An Assessment and Comparison of Two NIESR Econometric Model Forecasts.

• **Osborn, D. R.** National Institute Gross Output Forecasts: A Comparison with US Performance.

National Tax Journal, Vol. 32, No. 1, March 1979

• **Akin, J. S.** Estimates of State Resource Constraints Derived from a Specific Utility Function: An Alternative Measure of Fiscal Capacity.

• **Bowman, J. H.** Federal Restrictions on State Taxation of Military Pay Revisited: A Note on Tax Avoidance through Domicile Shifting Following Removal of the Withholding Prohibition.

• **Clotfelter, C. T.** Equity, Efficiency, and the Tax Treatment of In-Kind Compensation.

Guthrie, R. S. Measurement of Relative Tax Progressivity.

• **Hettich, W.** Henry Simons on Taxation and the Economic System.

Katseli-Papaefstratiou, L. T. Nominal Tax Rates and the Effectiveness of Fiscal Policy.

McDonald, S. L. Depreciability of Assets and the Taxation of Capital Gains.

O'Connell, J. F. Multiple Job Holding and Marginal Tax Rates.

• **Okner, B. A.** Distributional Aspects of Tax Reform during the Past Fifteen Years.

Palash, C. J. A Note on the Relative Efficiency of an Acceleration of Depreciation Allowances and an Increase in the Investment Tax Credit.

• **Vehorn, C. L.** Market Interaction between Public and Private Goods: The Demand for Fire Protection.

Whalley, J. Capital Gains Taxation and Interest Rate Changes: An Extension of Paish's Argument.

National Westminister Bank Quarterly Review, May 1979

Haslam, J. An Appraisal of Microelectronic Technology.

Jones, T. T. Oil Refining: An EEC and UK Problem of Excess Capacity.

Kirkpatrick, C. H. The Renegotiation of the Lomé Convention.

Leigh-Pemberton, R. Banks, Building Societies and Personal Savings.

Rowley, C. K. Liberalism and Collective Choice.

Walker, D. H. Mid-career Redundancy.

Nationalokonomisk Tidsskrift, Vol. 116, No. 3, 1978

Blomgren-Hansen, N. and Knøsgaard, J. E. Boligmarkedet i den pengepolitiske transmissionsmekanisme. (An Econometric Model of the Interaction of Monetary Policy and the Housing Market in Denmark. With English summary.)

Feiwel, G. R. Price Reform and Inflation in Soviet-type Economies.

Gørtz, E. Mængde- og prisvirkningen af pengemængdeændringer i Keynes-modellen. (The Price Effect of Changes in the Money Stock in Keynes' Analysis. With English summary.)

Kristensen, K. En metode til kalibrering af diskriminantanalysens afskæringsværdi. (The Cut-off Point in Discriminant Analysis of Classification Problems. With English summary.)

Laursen, K. Udviklingslandenes økonomi: De forløbne 25 år og de næste 10. (The Developing Countries: Recent Development and Future Prospects. With English summary.)

Nørregaard, P. R. Mogens Boserups offentliggjorte arbejder. (Mogens Boserup's Published Works: A Bibliography.)

Svendsen, K. E. Alternativ teori om socialistisk forbrug i lyset af sovjetisk og polsk debat. (An Alternative Theory of Socialist Consumption. With English summary.)

Thage, B. Det nye danske nationalregnskab. (The New Danish National Accounts. With English summary.)

Natural Resources Journal, Vol. 19, No. 2, April 1979

Abbey, D. Energy Production and Water Resources in the Colorado River Basin.

Brooks, H. T. Reserved Water Rights and Our National Forests.

Daneke, G. A. and Priscoli, J. D. Social Assessment and Resource Policy: Lessons from Water Planning.

Goldfarb, W. The Hazards of our Hazardous Waste Policy.

Johnson, R. N. Oral Auction versus Sealed Bids: An Empirical Investigation.

Lackmann, C. G. Coastal States Have Control of Coastal Resources.

McNamara, J. Federal Land Management Policy and the Drive to Develop an Alternate Energy Source, Geothermal Energy: Shall the Twain Ever Meet?

Noble, J., Jr. Conservation, Lifeline Rates and Public Utility Regulatory Commissions.

Ricco, E. Anti-Nuclear Sentiment Makes Itself Felt.

Silver, R. M. and Comeau, S. P. Geothermal Energy: Problems and Shortcomings of Classification of a Unique Resource—A Look at Problems with Water Law, with Particular Emphasis on New Mexico: Comment.

Smith, A. L. The Forest Service, NEPA, and Clear Cutting.

Thomas, H. Environmental Considerations in Federal Oil and Gas Leasing on Outer Continental Shelf.

Nebraska Journal of Economics and Business, Vol. 18, No. 2, Spring 1979

• **Davidson, P.** Is Monetary Collapse in the Eighties in the Cards?

• **Englebrecht, T. D.; Copeland, R. M. and Davison, D. L.** An Empirical Inquiry into the Tax Court's Utilization of Guidelines for Valuing Closely Held Stock for Estate and Gift Tax Purposes.

• **Fusfeld, D. R.** The Next Great Depression.

Junz, H. B. Adjustment Policies and Trade Relations with Developing Countries.

• **Moosa, S. A.** Why Stocks Have not been a Hedge against Inflation.

New England Economic Review, March/April 1979

Anderson, P. S. Costs and Profitability of Bank Functions.

Ellis, R. P. How Have Regional Energy Patterns Changed since 1973?

Fieleke, N. S. Foreign-Exchange Speculation by U.S. Firms: Some New Evidence.

Halpern, J. D. The Effectiveness of Temporary Changes in the Federal Personal Income Tax.

Munnell, A. H. The Impact of Inflation on Private Pensions.

New England Economic Review, May/June 1979

Fieleke, N. S. The Forecasting Performances of the OECD and of National Officials in Six Major Countries.

Halpern, J. D. The Social Security Disability Insurance Program: Reasons for Its Growth and Prospects for the Future.

Kopcke, R. Are Stocks a Bargain?

Morris, F. E. The Cost of Price Control in Banking.

Ohio State University Bulletin of Business Research, Vol. 53, No. 12, December 1979

Hunker, H. L. and L'Esperance, W. L. The Role of City Government in the Economic Development of Columbus, Ohio.

Shkurti, W. J. The Health Care Industry in Ohio: Characteristics and Impact.

Ohio State University Bulletin of Business Research, Vol. 54, No. 1–2, January–February 1978

McCalmont, D. B. Consumer Cooperatives.

Schwirian, P. M. and Schwirian, K. P. Finances and Life Satisfaction among Institutionalized Elderly.

Osaka Economic Papers, Vol. 28, No. 4, March 1979

Ishikawa, J. On the Overhead Allocation Model of Kaplan and Thompson. (In Japanese. With English summary.)

Kuwata, M. and Hatakeyama, H. The Management and the Accounting Methods of a Hardware Wholesale Merchant in Miki of Harima Province—The Case of the Kuroda Family. (In Japanese. With English summary.)

Sakagami, Y. On the Evaluation of the Hypothesis, "All R are B." (In Japanese. With English summary.)

Takada, K. Corporate Social Responsibility and Corporate Goals. (In Japanese. With English summary.)

Uekawa, Y. The Formation of Trade Associations and the Osaka Chamber of Commerce in the Early Period of Meiji Era. (In Japanese. With English summary.)

Yamada, M. On the Theory of Optimal Commodity Taxation: A Survey. (In Japanese. With English summary.)

Oxford Bulletin of Economics and Statistics, Vol. 40, No. 4, November 1978

- **Armstrong, A. C. and Odling-Smee, J. C.** The Demand for New Cars I—A Theoretical Model of Replacement Demand.
- **Creedy, J.** Negative Income Taxes and Income Redistribution.
- **Elliott, R. F. and Shelton, H. C.** A Wage Settlements Index for the United Kingdom, 1950–1975.
- **McAleese, D. and McDonald, D.** Employment Growth and the Development of Linkages in Foreign-Owned and Domestic Manufacturing Enterprises.
- **Yeats, A. J.** On the Accuracy of Partner Country Trade Statistics.

Oxford Bulletin of Economics and Statistics, Vol. 41, No. 1, February 1979

- **Barker, T. S.** Identification of Activity Effects, Trends and Cycles in Import Demand.
- **Brown, W.** Engineering Wages and the Social Contract, 1975–1977.

Hughes, J. J. and Thirlwall, A. P. Trends and Cycles in Import Penetration in the UK: Reply.

- **Khatkhate, D. R. and Villanueva, D. P.** Deposit Substitutes and Their Monetary Policy Significance in Developing Countries.
- **Livingstone, I. and Hazlewood, A.** The Analysis of Risk in Irrigation Projects in Developing Countries.
- **Mayhew, K.** Economists and Strikes.

Whitley, J. D. and Wilson, R. A. Trends and Cycles in Import Penetration in the UK: Comment.

Oxford Economic Papers, N. S., Vol. 31, No. 1, March 1979

- **Duck, N. W. and Zis, G.** The Natural Rate Hypothesis, Policy Rules, and Fixed Exchange Rates.
- **Hay, D. A.** The Location of Industry in a Developing Country: The Case of Brazil.

Hicks, J. The Ricardian System: A Comment.

- **Ozawa, T.** International Investment and Industrial Structure: New Theoretical Implications from the Japanese Experience.
- **Sattinger, M.** Differential Rents and the Distribution of Earnings.

Sawyer, M. C. 'The Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain': A Comment.

- **Scarfe, B. L.** Optimal Monetary Policy with a

Trade-Off Function.

Spindler, Z. A. and Maki, D. More on the Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain.

- **Tovias, A.** The Outcome of Closer Economic Links with the EEC for LDCs' Exports Previously Dumped in World Markets: An Empirical Investigation.
- **Turnovsky, S. J.** Inflationary Expectations in a Two-Sector Model of Wage-Price Determination.
- **Young, L.** Uncertainty, Market Structure, and Resource Allocation.

Pakistan Economic and Social Review, Vol. 15, No. 3–4, Autumn–Winter 1977

Aftab, K. Does Education Accelerate Economic Growth? An Assessment of McClelland's Hypothesis.

Ayub, M. A. Property Rights and Externalities.

Cebula, R. J. and Chapin, G. L. A Note on Inter-industry Labor Movements.

Johnson, H. G. Balance-of-Payments Adjustment with Bonds and Goods: A Geometrical Approach.

Lowdermilk, M. K., et al. Organizing Farmers to Improve Irrigation Water Delivery—The Problem and Prospects for Solutions in Pakistan.

Ojo, F. Nigeria's Export Performance: Trends, Problems and Prospects.

Policy Analysis, Vol. 5, No. 2, Spring 1979

Acland, H. Are Randomized Experiments the Cadillacs of Design?

von Furstenberg, G. M. The Choice of Housing: Efficiency versus Redistribution.

Lehman, E. W. and Waters, A. M. Control in Policy Research Institutes: Some Correlates.

Nikolai, L. A.; Elam, R. and Bozeman, B. Financial Statement Modeling: Analyzing the Pollution-Control Tax Incentive.

Roessner, J. D. Federal Technology Policy: Innovation and Problem Solving in State and Local Governments.

Russell, C. S. What Can We Get from Effluent Charges?

Thayer, R. E. Make City Annual Reports Useful.

***Political Science Quarterly, Vol. 94, No. 2, Summer 1979**

Kenen, P. B. Taking the Long View: Rostow on Prospects for the World Economy.

* The Summer 1979 issue of *Political Science Quarterly* carries the volume number 95 on the cover. According to our records, the sequential volume number is 94.

Population and Development Review, Vol. 5, No. 2, June 1979

Dutton, J., Jr. Changes in Soviet Mortality Patterns, 1959–77.

Fields, G. S. Lifetime Migration in Colombia: Tests of the Expected Income Hypothesis.

Knodel, J. and van de Walle, E. Lessons from the Past: Policy Implications of Historical Fertility Studies.

Lieberman, S. S. Prospects for Development and Population Growth in Iran.

Preston, S. H. Urban Growth in Developing Countries: A Demographic Reappraisal.

Population Studies, Vol. 33, No. 1, March 1979

Courbage, Y. and Fargues, P. A Method for Deriving Mortality Estimates from Incomplete Vital Statistics.

Ermisch, J. The Relevance of the 'Easterlin Hypothesis' and the 'New Home Economics' to Fertility Movements in Great Britain.

Grebenik, E. David Victor Glass (1911–1978)

Meegama, S. A. Cholera Epidemics and Their Control in Ceylon.

Mosk, C. The Decline of Marital Fertility in Japan.

Rumford, J. and Greene, S. A Study of the Correlation Bias of Unrecorded Events by Two Independent Enumeration Systems.

Santow, G. Models of Contemporary Dutch Family Building.

St. John-Jones, L. W. Emigration from Canada in the 1960s.

Turpeinen, O. Fertility and Mortality in Finland since 1750.

Weller, R. H. The Differential Attainment of Family Size Goals by Race.

Yu, Y. C. The Population Policy of China.

Zaba, B. The Four-Parameter Logit Life Table System.

Problems of Economics, Vol. 21, No. 8, December 1978

Fal'tsman, V. Intensification of Development of the Production Apparatus.

Gorizontov, B. and Prokudin, V. Environmental Protection in Comecon Member Nations.

Krasovskii, A. Capital Investment Policy in the Period of Developed Socialism.

Manevich, E. L. Manpower Shortages and Reserves.

Senchagov, V. Development of the Socialist Economic Mechanism.

Tupytsia, I. Nature Conservation as a Problem of Economic Science.

Problems of Economics, Vol. 21, No. 9, January 1979

Mezhberg, I. Current Problems in the Restructuring of the Countryside.

Mikheev, G. and Iudaeva, N. The Effectiveness of Utilization of Capital Investments in the National Economy.

Rutgaizer, V. and Saenko, O. Using the Rational Consumption Budget in Planning the Standard of Living.

Subotskii, I. Concentration of Production and Small Enterprises.

Problems of Economics, Vol. 21, No. 10, February 1979

Bagrova, I. Reflecting the Differentiation of Labor Resources in Socioeconomic Forecasting.

Beliaevskii, I. Socioeconomic Factors in the Development of Retail Trade Turnover.

Kravtsova, V. Food Consumption (The Socioeconomic Aspect)

Manevich, E. Reproduction of the Population and Utilization of Labor Resources.

Martynov, V. Comparative Evaluation of Final Output of the USSR and USA.

Maslova, I. Effectiveness of Utilization of Labor Resources (Problems of Theory and Methodology)

Mikhasiuk, I. The Economic Evaluation of Land and the Improvement of Rental Relationships in the USSR.

Problems of Economics, Vol. 21, No. 11, March 1979

Klochek, V. Soviet Foreign Trade.

Lisitsian, N. Effectiveness of the Circulation Sphere (Methodological Problems)

Nekrasov, N. Problems in the Deployment of Productive Forces in the USSR.

Vitebskii, R. Regional Differences in Expenditures on the Infrastructure.

Vitin, A. The Effectiveness of Nonproductive Capital Investments.

Zaikov, G. On the Ecological Aspect of Cost Accountability.

Problems of Economics, Vol. 21, No. 12, April 1979

Aleksandrova, E. and Fedorovskaia, E. Improvement in the Well-Being of the Working People and Growth in the Population's Savings.

Ambartsumov, A. On the Question of Equivalence in Exchange between Industry and Agriculture.

Bobylev, S. Agricultural Production and the Development of the Infrastructure.

Feitel'man, N. Socioeconomic Problems of Ecological Equilibrium in Western Siberia.

Il'ev, L. Nature Conservation and Cost Accounting.

Rutgaizer, V.; Koriagina, T. and Petrov, T. Workers' Well-Being and Time Budgets (Methodological Problems)

Public Policy, Vol. 27, No. 2, Spring 1979

Graham, E. M. Technological Innovation, the Technology Gap, and U.S. Welfare.

Salamon, L. M. The Time Dimension in Policy Evaluation: The Case of the New Deal Land-Reform Experiments.

Stone, D. A. Physicians as Gatekeepers: Illness Certification as a Rationing Device.

Taylor, A. K. Government Health Policy and Hospital Labor Costs: The Effects of Wage and Price Controls on Hospital Wage Rates and Employment.

Public Policy, Vol. 27, No. 3, Summer 1979

Cole, R. F. Social Reform Frustrated by Bureaucratic Routine: Title XX in Massachusetts.

Fischel, W. A. Equity and Efficiency Aspects of Zoning Reform.

Plotnick, R. and Smeeding, T. Poverty and Income Transfers: Past Trends and Future Prospects.

Weinstein, M. C. Decision Making for Toxic Substances Control: Cost-Effective Information Development for the Control of Environmental Carcinogens.

Quarterly Journal of Economics, Vol. 93, No. 2, May 1979

Akerlof, G. A. Irving Fisher on His Head: The Consequences of Constant Threshold-Target Monitoring of Money Holdings.

• **Christofides, L. N. and Tapon, F.** Discretionary Expenditures and Profit Risk Management: The Galbraith-Caves Hypothesis.

• **Gianessi, L. P.; Peskin, H. M. and Wolff, E.** The Distributional Effects of Uniform Air Pollution Policy in the United States.

• **Hartman, D. G.** Foreign Investment and Finance with Risk.

• **Kotlikoff, L. J.** Social Security and Equilibrium Capital Intensity.

• **Markusen, J. R.** Personal and Job Characteristics as Determinants of Employee-Firm Contract Structure.

• **Pratt, J. W.; Wise, D. A. and Zeckhauser, R.** Price Differences in Almost Competitive Markets.

Yitzhaki, S. Relative Deprivation and the Gini Coefficient.

Quarterly Review of Economics and Business, Vol. 19, No. 2, Summer 1979

• **Chelius, J. R.** Economic and Demographic Aspects of the Occupational Injury Problem.

- De Rooy, J. Are There Decreasing Returns to Income in the United States?
- Due, J. F. State Rail Plans and Programs.
- Fisher, F. M. Diagnosing Monopoly.
- Galai, D. A Convexity Test for Traded Options.
- Goodman, D. E. and McMahon, W. W. Predicting Inflation Rates with Changing Oil Prices.
- Kalish, L. and McKenzie, J. A. Portfolio Drag and Savings and Loan Lending Policy.
- Pustay, M. W. The Transatlantic Airline Market: Exploring the Myths of Excessive, Unfair, and Predatory Competition.

Regional Studies, Vol. 13, No. 1, 1979

Ashcroft, B. and Ingham, K. P. D. Company Adaptation and the Response to Regional Policy: A Comparative Analysis of MNC Subsidiaries and Indigenous Companies.

Bell, D. N. F. and Kirwan, F. X. Return Migration in a Scottish Context.

Creigh, S. W. Work Stoppages in the Humberside Sub-Region: A Case Study in Regional Strike-Proneness.

Drudy, P. J. and Drudy, S. M. Population Mobility and Labour Supply in Rural Regions: North Norfolk and the Galway Gaeltacht.

Lund, P. J. and Gleed, R. H. The Development Area Share of Manufacturing Industry Investment, 1966–69.

O'Farrell, P. N. and Crouchley, R. The Locational Pattern of New Manufacturing Establishments: An Application of Discriminant Analysis.

Öberg, S. and Oscarsson, G. Regional Policy and Interregional Migration—Matching Jobs and Individuals on Local Labour Markets.

Pacione, M. The In-Town Hypermarket: An Innovation in the Geography of Retailing.

Regional Science and Urban Economics, Vol. 9, No. 1, February 1979

Guise, J. W. B. An Expository Critique of the Takayama-Judge Models of Interregional and Intertemporal Market Equilibrium.

Okabe, A. An Expected Rank-Size Rule: A Theoretical Relationship between the Rank Size Rule and City Size Distributions.

Papageorgiou, G. J. Agglomeration.

von Rabenau, B. and Hanson, D. A. The Provision of Public Goods in a Growing Urban Economy.

Rogers, K. and Hansen, S. Models of Individual Mode Change.

Takayama, T. and Hashimoto, H. An Expository Critique of the Takayama-Judge Models of Interregional and Intertemporal Market Equilibrium: A Rejoinder.

Varaiya, P.; Artle, R. and Humes, C., Jr. Division of Labor and the Distribution of Income.

Vislie, J. Division of Labour—Simon Revisited: A Comment.

Review of the Economic Conditions in Italy, Vol. 32, No. 5–6, September–November 1978

Apicella, V. The Evolution of the Italian Motorway System.

Guidi, G. Research and Management Training: Indications and Stimuli in the Present Economic Situation of Banks.

Parrillo, F. The Cooperative Banks and Their Role in the Italian Economy.

Ruini, C. The Prospects for Development of the Italian Economy.

Review of Economic Studies, Vol. 46, No. 1, January 1979

- Barnett, W. A. Theoretical Foundations for the Rotterdam Model.
- Calvo, G. A. Optimal Population and Capital over Time: The Maximin Perspective.
- Fishburn, P. C. Transitivity.
- Gelb, A. H. On the Definition and Measurement of Instability and the Costs of Buffering Export Fluctuations.
- Gilbert, R. J. Optimal Depletion of an Uncertain Stock.

Hadjimichalakis, M. G. and Okuguchi, K. The Stability of a Generalized Tobin Model.

- Hart, O. D. Monopolistic Competition in a Large Economy with Differentiated Commodities.
- Polemarchakis, H. M. Implicit Contracts and Employment Theory.
- Selden, L. An OCE Analysis of the Effect of Uncertainty on Saving under Risk Preference Independence.
- Sheshinski, E. and Weiss, Y. Demand for Fixed Factors, Inflation and Adjustment Costs.
- Wales, T. J. and Woodland, A. D. Labour Supply and Progressive Taxes.
- Zabalza, A. The Determinants of Teacher Supply.

Review of Economics and Statistics, Vol. 61, No. 2, May 1979

Atesoglu, H. S. Simple Keynesian and Monetarist Models: Evidence from Postwar Japan.

- Balassa, B. The Changing Pattern of Comparative Advantage in Manufactured Goods.
- Battalio, R. C., et al. Residential Electricity Demand: An Experimental Study.

Brenner, M. and Downes, D. H. A Critical Evaluation of the Measurement of Conglomerate Performance Using the Capital Asset Pricing Model.

Buse, A. Least Squares with an Adjusted Dependent Variable.

- • **Cross, J. G.** Reinforcement Theory and the Consumer Model.
- • **Freebairn, J. W. and Withers, G. A.** Welfare Effects of Salary Forecast Error in Professional Labour Markets.
- **Frost, P. A.** Proxy Variables and Specification Bias.
- • **Joskow, P. L. and Rozanski, G. A.** The Effects of Learning by Doing on Nuclear Plant Operating Reliability.
- **Klotz, B. P.** Portfolio Theory with Variable Risk.
- • **McGuckin, R. H. and Winkler, D. R.** University Resources in the Production of Education.
- **Oster, S.** Industrial Search for New Locations: An Empirical Analysis.
- • **Pindyck, R. S.** Interfuel Substitution and the Industrial Demand for Energy: An International Comparison.
- • **Polinsky, A. M. and Ellwood, D. T.** An Empirical Reconciliation of Micro and Grouped Estimates of the Demand for Housing.
- **Porter, M. E.** The Structure within Industries and Companies' Performance.
- **Rider, K. L.** The Economics of the Distribution of Municipal Fire Protection Services.
- • **Scott, J. H. and Wolf, C. R.** The Efficient Diversification of Bids in Treasury Bill Auctions.
- • **Shiba, T.** The Personal Savings Function of Urban Worker Households in Japan.
- **Stone, J. A.** Price Elasticities of Demand for Imports and Exports: Industry Estimates for the U.S., the E.E.C. and Japan.
- **Tanner, J. E.** Fiscal Policy and Consumer Behavior.
- **Truong, T. V. and Gash, D. N.** Less-Developed Countries' Taxable Capacity and Economic Integration: A Cross-Sectional Analysis.
- • **Wilson, J. F. and Takacs, W. E.** Differential Responses to Price and Exchange Rate Influences in the Foreign Trade of Selected Industrial Countries.
- • **Wu, C. C.** Price-Output Uncertainty and Allocative Efficiency: An Empirical Study of Small-Scale Farms.
- **Zind, R. G.** A Note on the Measurement of Technical Bias in the U.S. Economy.

Review of Income and Wealth, Vol. 25, No. 1, March 1979

- **de Boer, S. and van Tuinen, H. K.** Price Analysis and a System of Price Statistics.
- **Coondoo, D.; Mukherjee, R. and Prasada Rao, D. S.** Inter-Occupation Differences in the Pattern of Monetized and Non-Monetized Consumer Expenditure in Rural India.
- **Greenfield, C. C. and Fell, H. A.** The Estimation of Price Effects in a Social Accounting Matrix.
- **Haig, B. D. and Wood, M. P.** Tracing Price Changes through Stages of Production: Australia, 1968 to 1977.
- **Hill, T. P.** Do-It-Yourself and GDP.
- **Suominen, R.** Empirical Results Concerning Vertical and Horizontal Redistribution in Finland.

Review of Social Economy, Vol. 37, No. 1, April 1979

- **Bruyn, S. T. and Nicolaou-Smokovitis, L.** A Theoretical Framework for Studying Worker Participation: The Psychosocial Contract.
- • **Cochran, K. P.** Why a Social Economics?
- • **Finn, D. R.** Objectivity in Economics: On the Choice of a Scientific Method.
- **Johnson, F. R.** The Mormon Church as a Central Command System.
- **Larson, D. A. and Wilford, W. T.** The Quality of Life and Per Capita Income in the United States.
- • **Mabry, B. D.** Bargaining Power and Changes in Fringe Benefits.
- • **McKee, A. F.** From a Theory of Economic Justice to Its Implementation.
- **Smith, G. A.** Belize Development: The Plans and Ideology.

Rivista Internazionale di Scienze Economiche e Commerciali, Vol. 26, No. 2, February 1979

- **Casetta, E.** Questioni varie in materia di costituzionalità della legge 28 gennaio 1977 N. 10. (Sundry Questions as to the Constitutionality of the Law, January 28, 1977, No. 10.)
- **Di Nardi, G.** Deficit abitativo e nuova disciplina dei suoli. (The Housing Deficit and the New Land Regulation.)
- **Gambaro, A.** Lo "ius aedificandi" nel diritto francese. ("Ius aedificandi" in French Law.)
- **Guarneri, A.** Profili comparativi in tema di "ius aedificandi." (A Comparative Analysis of the "ius aedificandi" in Different Countries.)
- **Magnani, I.** Le conseguenze economiche della legge sui suoli. (Economic Effects of the Land Law.)
- **Manfredini Gasparetto, M.** Conclusione alla giornata di studio su "Aspetti e problemi economici della nuova disciplina dei suoli." (Economic Aspects and Problems of the New Land Regulation.)
- **Mazzarolli, L.** Proprietà dei suoli e potere pubblico: Un'introduzione. (Land Ownership and the Public Authorities: An Introduction.)
- **Muraro, G.** Uso dei suoli e intervento pubblico sul mercato edilizio. (Land Use and Public Intervention in the Construction Market.)
- **Sandulli, A. M.** Nuovo regime dei suoli e costituzione. (The New Land Regulation and the Constitution.)

Sonnenberger, H. J. Diritto edilizio e piani edilizi in Germania. (Building Law and Building Plans in Germany.)

Rivista Internazionale di Scienze Economiche e Commerciali, Vol. 26, No. 3, March 1979

Chen, E. K. Y. Kaldor's Laws and the Developing Countries: An Empirical Study.
Gandhi, D. K. and Saunders, A. Optimal Tax Structures and Risk Aversion.
Holden, P. and Holden, M. Exchange Rate Policy and the Demand for International Reserves.
Levin, S. G. and Levin, S. L. Owner vs. Manager Control: Some Evidence on Discriminatory Employment Practices.
Palomba, G. Dialoghi sull'essenziale tra un economista e un politico. (Dialogues on the Essentials between an Economist and a Politician. With English summary.)
Yousefi, M. Monetary Rules in Monetary Policy.

Rivista di Politica Economica, Vol. 69, No. 1, January 1979

Heimler, A. Occupazione e produzione nei servizi: alcune stime econometriche.
Simonsen, M. H. Pagamenti internazionali e indebitamento estero.
Zenezini, M. Curva di Phillips, aspettative inflazionistiche, tasso naturale di disoccupazione: considerazioni teoriche e verifica empirica per l'Italia, 1963–1976.

Rivista di Statistica Applicata, Vol. 12, No. 1, January–February–March 1979

Muttarini, L. L'effetto delle variazioni di calendario nell'indice della produzione industriale italiana. (With English summary.)

Scandinavian Journal of Economics, Vol. 81, No. 1, 1979

• Ando, A. On the Contributions of Herbert A. Simon to Economics.
• Baumol, W. J. On the Contributions of Herbert A. Simon to Economics.
Gørtz, E. On Relations between Price Elasticities and the Elasticity of Substitution in Consumption: A Reply.
• Hansen, T. The Relationship between Aggregate Costs, Employment and Cargo Capacity of the Norwegian Purse Seiner Fleet.
• Jonung, L. and Wadensjö, E. Wages and Prices in Sweden, 1912–1921: A Retrospective Test.
• Koskela, E. On Disequilibrium Effects of Interest Rate Controls in a Monopolistic Banking System.
• Löfgren, K.-G. The Corridor and Local Stability of the Effective Excess Demand Hypothesis: A Result.
• Rødseth, A. Macroeconomic Policy in a Small Open Economy.
Smith, V. K. On Relations between Price Elasticities and the Elasticity of Substitution in Consumption: A Comment.

Science and Society, Vol. 43, No. 2, Summer 1979

Mishra, R. Technology and Social Structure in Marx's Theory: An Exploratory Analysis.
Pregger Román, C. G. Economic Interest Groups within the Chilean Government, 1851 to 1891: Continuity and Discontinuity in Economic and Political Evolution.
Rucker, R. D. Workers' Control of Production in the October Revolution and Civil War.

Sloan Management Review, Vol. 20, No. 3, Spring 1979

Abernathy, W. J. and Chakravarthy, B. S. Government Intervention and Innovation in Industry: A Policy Framework.
Baldwin, C. Timing of Mandated Investments: A Framework for Decision Making.
Cozzolino, J. M. A New Method for Risk Analysis.
Emshoff, J. R. and Finnel, A. Defining Corporate Strategy: A Case Study Using Strategic Assumptions Analysis.
Othegraven, R. SMR Forum: Germany's Export Success—A Model for the U.S.?
Quinn, J. B. Technological Innovation, Entrepreneurship, and Strategy.
Suzuki, R. SMR Forum: Worldwide Expansion of U.S. Exports—A Japanese View.

Social and Economic Studies, Vol. 27, No. 2, June 1978

Cuthbert, M. and Sparkes, V. Coverage of Jamaica in the U.S. and Canadian Press in 1976: A Study of Press Bias and Effect.
Farrell, T. M. A. The Unemployment Crisis in Trinidad and Tobago: Its Current Dimensions and Some Projections to 1985.
Hawrylyshyn, O. A Geometric Exposition of LDC Unemployment via Third-Factor Shortages.
Hum, D. and Basilevsky, A. Economic Activity and Cyclical Variation in Birthrates: Some New Evidence for Jamaica.
Petras, J. F. and Morley, M. H. The Rise and Fall of Regional Economic Nationalism in the Andean Countries, 1969–1977.
St. Pierre, M. The 1938 Jamaica Disturbances: A Portrait of Mass Reaction against Colonialism.

South African Journal of Economics, Vol. 46, No. 4, December 1978

Bronfenbrenner, M. On Dumping Gold.

Brown, G. P. and Rogers, C. Macroeconomics, Comparative Statics and the Correspondence Principle: A Critique.

Gidlow, R. M. The Rand Currency Link: Reply.

Hicks, J. Capital, Expectations and the Market Process (Review Note)

Horwood, O. P. F. The Monetary Role of Gold: The Need for a Reappraisal.

Joubert, R. J. O. Verdienstefunksies en die Onderwys.

van der Merwe, G. C. The Rand Currency Link: Comment.

O'Dowd, M. C. The Problem of "Government Failure" in Mixed Economies.

Seeber, A. V. and Dockel, J. A. The Behaviour of Government Expenditure in South Africa.

South African Journal of Economics, Vol. 47, No. 1, March 1979

Afxentiou, P. C. Reflections on Monetarism.

Black, P. A. Growth, Exploitation and the Lewis Model: Comment.

Black, H.; Schulze, D. L. and Fellows, J. A. Velocity in West Germany.

Dennis, R. J. Portfolio Behaviour of South African Commercial Banks, 1965–1975.

Gidlow, R. M. The Case for a Forward Exchange Market in South Africa.

Lynch, J. P. The Revision of the Consumer Price Index.

Steenkamp, W. F. J. The Pharmaceutical Industry in South Africa.

Torr, C. S. W. The Rate of Unemployment as an Indicator of Aggregate Demand Conditions.

Southern Economic Journal, Vol. 46, No. 1, July 1979

• **Almon, C.** A System of Consumption Functions and Its Estimation for Belgium.

• **Anderson, R. K.; Porter, P. K. and Maurice, S. C.** The Economics of Consumer-Managed Firms.

Asch, P. The Role of Advertising in Changing Concentration, 1963–1971.

• **Bender, B. A.** The Determinants of Housing Demolition and Abandonment.

• **Brown, R. S.; Caves, D. W. and Christensen, L. R.** Modelling the Structure of Cost and Production for Multiproduct Firms.

• **Canterbery, E. R.** A Vita Theory of the Personal Income Distribution.

• **Dickson, V. A.** Sub-optimal Capacity and Market Structure in Canadian Industry.

• **Enders, W. and Lapan, H. E.** Stability, Random Disturbances and the Exchange Rate Regime.

Epple, D. and Raviv, A. Product Reliability and Market Structure.

• **Flood, R. P.** An Example of Exchange Rate Overshooting.

• **Forsythe, R.** Unanimity and the Theory of the Firm under Multiplicative Uncertainty.

• **Fortune, J. N.** Income Distribution and Linder's Thesis.

• **Ghosh, D. K.** Trade Model with Nontraded Sector: Economic Expansion and Immiserization.

• **Greenhut, M. L. and Ohta, H.** Output Effects of Spatial Price Discrimination under Conditions of Monopoly and Competition.

• **Lee, D. R.** Price Controls on Non-Renewable Resources: An Intertemporal Analysis.

• **Lee, L. W.** A Theory of Management and Its Implications for Capital Structure and Merger.

• **McKenzie, R. B.** The Non-Rational Domain and the Limits of Economic Analysis.

• **Meisel, J. B.** Demand and Supply Determinants of Advertising Intensity among Convenience Goods.

• **Miller, S. M. and Romeo, A. A.** Alternative Goals and Uncertainty in the Theory of the Firm.

Norman, A. L.; Norman, M. R. and Palash, C. J. Multiple Relative Maxima in Optimal Macroeconomic Policy: An Illustration.

Vaughn, K. I. and Pfouts, R. W. Symmetry of Production Stages and Uneconomic Production: Further Reply.

• **Veendorp, E. C. H.** Robinson Crusoe, Friday, and the Competitive Price Mechanism: Some Implications of the Heterogeneity of Successive Labor Units.

Wang, A.-Y. and Cheng, K.-S. Symmetry of Production Stages and Uneconomic Production: Comment.

Statistica, Vol. 39, No. 1, January–March 1979

Corradi, C. and Stefanini, L. Using the Mixed Linear-Nonlinear Approach for the Solution of Nonlinear Estimation Problems Arising in Applied Econometrics.

Faleschini, L. Statistica scientifica e statistica operativa. (Scientific Statistics and Operative Statistics. With English summary.)

Filipucci, C. Il valore aggiunto delle piccole imprese e il censimento del 1981: un matrimonio che s'ha da fare. (Added Value of Small Firms and the 1981 Italian Census: A Necessary Pair. With English summary.)

Gardini, A. and Zangari, G. Aree industriali omogenee e squilibri territoriali in Emila-Romagna. (Industrial Homogeneous Regions and Spatial Disequilibrium in Emilia-Romagna. With English summary.)

Welch, R. L. W. and Tsokos, C. P. Multivariate Non-Gaussian Bayes Discriminant Analysis.

Studi Economici, Vol. 33, No. 6, 1978

Corsi, A. La distribuzione del reddito nel Mezzogiorno e in Italia 1951–1971.

Pasca, R. Effetti delle politiche comunitarie sugli scambi agricoli mediterranei e problemi del futuro allargamento della Cee.

Sportelli, M. C. Alcune ipotesi sui collegamenti, tra scuola e mercato del lavoro.

Stornaiuolo, G. Produzione, capitale e lavoro nei settori delle partecipazioni statali.

Survey of Current Business, Vol. 59, No. 3, March 1979

Bach, C. L. U.S. International Transactions, Fourth Quarter and Year 1978.

Chung, W. K. Capital Expenditures by Majority-Owned Foreign Affiliates of U.S. Companies, 1979.

Musgrave, J. C. Durable Goods Owned by Consumers in the United States, 1925–77.

Woodward, J. T. Plant and Equipment Expenditures, First and Second Quarters and Second Half of 1979.

Survey of Current Business, Vol. 59, No. 4, April 1979

Bretzfelder, R. and Friedenberg, H. State Differences in Nonfarm Personal Income Growth in the Current Business Cycle.

Eldridge, D. P. Gross Product by Industry, 1978.

Parker, R. P. U.S. National Income and Product Accounts: Preliminary Revised Estimates, 1972.

Ritz, P. M.; Roberts, E. P. and Young, P. C. Dollar-Value Tables for the 1972 Input–Output Study.

Survey of Current Business, Vol. 59, No. 5, May 1979

• **Korns, A.** Cyclical Fluctuations in the Difference between the Payroll and Household Measures of Employment.

• **de Leeuw, F.** Why Capacity Utilization Estimates Differ.

Tijdschrift Voor Economie en Management, Vol. 24, No. 1, 1979

Gheysens, L.; Regidor, B. and Vanthienen, L. Cost of Equity Capital of 185 Belgian Companies.

Gheysens, L.; Regidor, B. and Vanthienen, L. Cost of Equity Estimation of Companies in Belgium, France, Germany, the Netherlands, Spain, Sweden and U.K.: Some Empirical Results.

Gheysens, L. Risk and Return of Eurobonds.

Van Herck, G. Neutrale Inkomstenbelastingen. (With English summary.)

Van Herck, G. Ondernemingsrisico: een nadere omschrijving en analysemethode. (With English summary.)

El Trimestre Economico, Vol. 46, No. 183, July–September 1979

Bennett, D. and Sharpe, K. E. La industria automotriz mexicana y la política económica de la promoción de exportaciones: Alugnos problemas del control estatal de las empresas transnacionales.

Donelson, S., et al. Los programas de ayuda de las agencias multilaterales para los asentamientos humanos en la América Latina.

Ffrench-Davis, R. Términos del intercambio recíproco y efectos distributivos de la integración económica.

Pinto, A. and Di Filippo, A. Desarrollo y pobreza en la América Latina: Un enfoque histórico-estructural.

Pollock, D. H. and Zuntz, M. Los Estados Unidos y el desarrollo latinoamericano: Algunas ideas sobre los problemas de una nueva región "de ingreso medio"

Prebisch, R. Introducción al estudio de la crisis del capitalismo periférico.

Robinson, J. La composición orgánica del capital.

Vaitsos, C. V. De un pasado colonialista a una interdependencia asimétrica: El papel de Europa en las relaciones Norte-Sur.

Water Resources Research, Vol. 15, No. 2, April 1979

Grebenstein, C. R. and Field, B. C. Substituting for Water Inputs in U.S. Manufacturing.

Loehman, E., et al. Cost Allocation for a Regional Wastewater Treatment System.

Riley, J. G. and Scherer, C. R. Optimal Water Pricing and Storage with Cyclical Supply and Demand.

Water Resources Research, Vol. 15, No. 3, June 1979

Lansford, R. R., et al. Water Trade-Off between Electric Energy and Agriculture in the Four Corners Area.

Matanga, G. B. and Mariño, M. A. Irrigation Planning 1: Cropping Pattern.

Matanga, G. B. and Mariño, M. A. Irrigation Planning 2: Water Allocation for Leaching and Irrigation Purposes.

Ricci, P. F.; Glaser, E. R. and Laessig, R. E. A Model to Generate Rent Surfaces: Applications and Results for a Public Project.

Weltwirtschaftliches Archiv, Vol. 115, No. 1, 1979

• **Agarwal, J. P.** Productivity of Foreign and Domestic Firms in Indian Industries.

• **Bronfenbrenner, M.** On the Locomotive Theory in International Macroeconomics.

• **Choudhri, E. U.** The Pattern of Trade in Individual Products: A Test of Simple Theories.

• **De Grauwe, P., et al.** Trade Expansion with the Less Developed Countries and Employment: A Case Study of Belgium.

• **Dewald, W. G. and Marchon, M. N.** A Common

Specification of Price, Output, and Unemployment Rate Responses to Demand Pressure and Import Prices in Six Industrial Countries.

Fishelson, G. The Leontief Paradox in a Multi-Country Setting: Comment.

• Giddy, I. H.; Dufey, G. and Min, S. Interest Rates in the U.S. and Eurodollar Markets.

Hirsch, S. The Leontief Paradox in a Multi-Country Setting: Reply.

Kindleberger, C. P. The Ingredients of Growth in Industrial Countries.

Lim, D. Scale and Technology in Malaysian Manufacturing.

Sheehey, E. J. On the Measurement of Imported Inflation in Developing Countries.

Wong, C. and Pettersen, Ø. Financial Programming in the Framework of Optimal Control.

Yeats, A. J. Recent Changes in Developing Country Exports.

World Development, Vol. 7, No. 2, February 1979

Buira Seira, A. The World Economy, External Debt and Prospects for Development Financing.

Cizauskas, A. C. International Debt Renegotiation: Lessons from the Past.

Hardy, C. S. Commercial Bank Lending to Developing Countries: Supply Constraints.

Helleiner, G. K. Relief and Reform in Third World Debt.

Holsen, J. A. Notes on the 'LDC Debt Problem'

Hughes, H. Debt and Development: The Role of Foreign Capital in Economic Growth.

Shihata, I. F. I. and Mabro, R. The OPEC Aid Record.

Wionczek, M. S. Possible Solutions to the External Public Debt Problem of the Developing Countries: Final Report.

Wionczek, M. S. The LDC External Debt and the Euromarkets: The Impressive Record and the Uncertain Future.

Wionczek, M. S. International Indebtedness and World Economic Stagnation: Editor's Introduction.

World Development, Vol. 7, No. 3, March 1979

Bird, G. The Benefits of Special Drawing Rights for Less Developed Countries.

Dell, S. Basic Needs or Comprehensive Development: Should the UNDP Have a Development Strategy?

Evans, D. International Commodity Policy: UNCTAD and NIEO in Search of a Rationale.

Kilby, P. Evaluating Technical Assistance.

Maxwell, S. J. and Singer, H. W. Food Aid to Developing Countries: A Survey.

Sah, R. Priorities of Developing Countries in Weather and Climate.

Stryker, R. E. The World Bank and Agricultural Development: Food Production and Rural Poverty.

Weintraub, S. The New International Economic Order: The Beneficiaries.

Yale Law Journal, Vol. 88, No. 5, April 1979

Getman, J. G. · Labor Arbitration and Dispute Resolution.

Yale Law Journal, Vol. 88, No. 6, May 1979

Colburn, A. A. The Conflict between Managers and Shareholders in Diversifying Acquisitions: A Portfolio Theory Approach.

Williamson, O. E. Williamson on Predatory Pricing II.

Wootton, R. R. Creditors' Derivative Suits on Behalf of Solvent Corporations.

Yale Law Journal, Vol. 88, No. 7, June 1979

Burns, S. E. Credit Scoring and the ECOA: Applying the Effects Test.

Cohen, M. Efficiency and Competition in the Electric-Power Industry.

Strnad, J. F., II. State Economic Substantive Due Process: A Proposed Approach.

Classification System for Articles and Abstracts

Subject Index of Articles in Current Periodicals

Abstracts of articles marked thus • appear in this issue. See *Index of Authors of Articles in the Subject Index* for page numbers, in *italics*. NOTE: Non-English articles having no English explanation are omitted, but do appear in *Contents of Current Periodicals*.

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

011 General Economics

• Cochran, K. P. Why a Social Economics? *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 121–32.

Dagum, C. Methods and Data in Economic Inquiry: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 387–90.

Davidson, F. G. A Generally Sceptical View. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 71–72.

Ederington, L. H. Aspects of the Production of Significant Financial Research. *J. Finance*, June 1979, *34*(3), pp. 777–86.

• Frey, R. L. and Hill, W. Volkswirtschaftslehre und Betriebswirtschaftslehre: Entwicklungstendenzen und Kooperationsmöglichkeiten. (Economics and Business Administration: Trends and Possibilities of Cooperation.) *Kyklos*, 1979, *32*(1/2), pp. 451–74.

Georgescu-Roegen, N. Methods in Economic Science. *J. Econ. Issues*, June 1979, *13*(2), pp. 317–28.

Giles, B. D. Economists in Government: The Case of Malawi. *J. Devel. Stud.*, January 1979, *15*(2), pp. 216–32.

Gruen, F. H. Australian Economics, 1967–1977. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 1–20.

Hollmann, H. H. Antitrust Law and Protection of Freedom of the Press in the Federal Republic of Germany. *Antitrust Bull.*, Spring 1979, *24*(1), pp. 149–68.

Johnson, F. R. The Mormon Church as a Central Command System. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 79–94.

Lauterbach, A. Intolerance, Violence and Social Change: Rebellion versus Revolution. *ACES Bull.*, Spring 1979, *21*(1), pp. 61–86.

• McKenzie, R. B. The Non-Rational Domain and the Limits of Economic Analysis. *Southern Econ. J.*, July 1979, *46*(1), pp. 145–57.

Ohta, H. Language Barriers in Japan: An Economist's View. *Int. Soc. Sci. J.*, 1979, *31*(1), pp. 79–85.

Rowley, C. K. Liberalism and Collective Choice. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 11–22.

Salda, A. C. M. The International Monetary Fund, 1976–1977: A Selected Bibliography. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 367–413.

Singh, Y. Constraints, Contradictions and Interdisciplinary Orientations: The Indian Context. *Int. Soc. Sci. J.*, 1979, *31*(1), pp. 114–22.

• Widmaier, H. P. Zur Theorie der Evolution oszialer Bedürfnisse. (On the Theory of the Evolution of Social Needs.) *Kyklos*, 1979, *32*(1/2), pp. 350–62.

012 Teaching of Economics

Peake, C. F. Contemporary Macroeconomics Texts: A Review. *Amer. Econ.*, Spring 1979, *23*(1), pp. 35–40.

020 GENERAL ECONOMIC THEORY

• Ando, A. On the Contributions of Herbert A. Simon to Economics. *Scand. J. Econ.*, 1979, *81*(1), pp. 83–93.

• d'Aspremont, C. and Drèze, J. H. On the Stability of Dynamic Processes in Economic Theory. *Econometrica*, May 1979, *47*(3), pp. 733–37.

• Boland, L. A. and Newman, G. On the Role of Knowledge in Economic Theory. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 71–80.

• Bordo, M. D. and Landau, D. The Pattern of Citations in Economic Theory, 1945–68: An Exploration towards a Quantitative History of Thought. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 240–53.

Chase, R. Structural-Functional Dynamics in the Analysis of Socio-economic Systems: Development of the Approach to Understanding the Processes of Systemic Change. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 293–305.

• **Heilbroner, R. L.** Modern Economics as a Chapter in the History of Economic Thought. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 192–98.

Leibenstein, H. A Branch of Economics is Missing: Micro-Micro Theory. *J. Econ. Lit.*, June 1979, *17*(2), pp. 477–502.

Mănescu, M. Economic Space and Economic Time—Systematic Approach. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 3–18.

• **McKenzie, R. B.** The Non-Rational Domain and the Limits of Economic Analysis. *Southern Econ. J.*, July 1979, *46*(1), pp. 145–57.

Nelson, C. R. Discussion of the Zellner [Causality and Econometrics] and Schwert [Tests of Causality: The Message in the Innovations] Papers. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 97–102.

Palomba, G. Dialoghi sull'essenziale tra un economista e un politico. (Dialogues on the Essentials between an Economist and a Politician. With English summary.) *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 205–31.

Sims, C. A. A Comment on the Papers by Zellner [Causality and Econometrics] and Schwert [Tests of Causality: The Message in the Innovations]. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 103–08.

Zellner, A. Causality and Econometrics. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 9–54.

Zellner, A. Rejoinder to Nelson and Sims [Causality and Econometrics]. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 109–11.

021 General Equilibrium Theory

Alkan, A. U. The Efficient Paths to Infinity in Closed Leontief Models. *J. Math. Econ.*, March 1979, *6*(1), pp. 75–83.

Azoff, E. and Bird, C. On the Formation of Coalitions in Infinite Player Games. *J. Math. Econ.*, July 1979, *6*(2), pp. 203–13.

Balasko, Y. Economies with a Finite but Large Number of Equilibria. *J. Math. Econ.*, July 1979, *6*(2), pp. 145–47.

Benninga, S. General Equilibrium with Financial Markets: Existence, Uniqueness, and Implications for Corporate Finance. *J. Finance*, May 1979, *34*(2), pp. 325–39.

Bhattacharya, S. Financial Markets and Business Finance: Discussion. *J. Finance*, May 1979, *34*(2), pp. 342–45.

Billera, L. J. and Weber, R. J. Dense Families of Low-Complexity Attainable Sets of Markets. *J. Math. Econ.*, March 1979, *6*(1), pp. 67–73.

• **Calvo, G. A.** On the Indeterminacy of Interest Rates and Wages with Perfect Foresight. *J. Econ. Theory*, December 1978, *19*(2), pp. 321–37.

• **Cass, D.; Okuno, M. and Zilcha, I.** The Role of Money in Supporting the Pareto Optimality of Competitive Equilibrium in Consumption-Loan Type Models. *J. Econ. Theory*, February 1979, *20*(1), pp. 41–80.

• **Chang, W. W.** Some Theorems of Trade and General Equilibrium with Many Goods and Factors. *Econometrica*, May 1979, *47*(3), pp. 709–26.

Cheng, H.-C. Linear Economies Are "Gross Substitute" Systems. *J. Econ. Theory*, February 1979, *20*(1), pp. 110–17.

Dubey, P. and Shubik, M. Bankruptcy and Optimality in a Closed Trading Mass Economy Modelled as a Non-Cooperative Game. *J. Math. Econ.*, July 1979, *6*(2), pp. 115–34.

Friedman, D. Money-Mediated Disequilibrium Processes in a Pure Exchange Economy. *J. Math. Econ.*, July 1979, *6*(2), pp. 149–67.

• **Friesen, P. H.** The Arrow-Debreu Model Extended to Financial Markets. *Econometrica*, May 1979, *47*(3), pp. 689–707.

• **Gale, D. M.** The Core of a Monetary Economy without Trust. *J. Econ. Theory*, December 1978, *19*(2), pp. 456–91.

• **Greenberg, J.** Consistent Majority Rules over Compact Sets of Alternatives. *Econometrica*, May 1979, *47*(3), pp. 627–36.

Greenberg, J.; Shitovitz, B. and Wieczorek, A. Existence of Equilibria in Atomless Production Economies with Price Dependent Preferences. *J. Math. Econ.*, March 1979, *6*(1), pp. 31–41.

• **Guesnerie, R. and Laffont, J.-J.** Taxing Price Makers. *J. Econ. Theory*, December 1978, *19*(2), pp. 423–55.

• **Hart, O. D.** Monopolistic Competition in a Large Economy with Differentiated Commodities. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 1–30.

Hartfiel, D. J. Some Error Estimates in Matrix Economic Models. *J. Econ. Theory*, December 1978, *19*(2), pp. 551–54.

Ichioka, O. The Local Stability of the Morishima Case. *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 83–86.

• **Johansen, L.** On the Theory of Dynamic Input–Output Models with Different Time Profiles of Capital Construction and Finite Life-Time of Capital Equipment. *J. Econ. Theory*, December 1978, *19*(2), pp. 513–33.

• **Kalai, E.; Postlewaite, A. and Roberts, J.** A Group Incentive Compatible Mechanism Yielding Core Allocations. *J. Econ. Theory*, February 1979, *20*(1), pp. 13–22.

• **Lucas, R. E. B.** Sharing, Monitoring, and Incentives: Marshallian Misallocation Reassessed. *J. Polit. Econ.*, June 1979, *87*(3), pp. 501–21.

• **Makowski, L.** Value Theory with Personalized

022 Microeconomic Theory

Carroll, T. M.; Ciscil, D. H. and Chisholm, R. K. The Market as a Commons: An Unconventional View of Property Rights. *J. Econ. Issues*, June 1979, *13*(2), pp. 605–27.

• **Christofides, L. N. and Tapon, F.** Discretionary Expenditures and Profit Risk Management: The Galbraith-Caves Hypothesis. *Quart. J. Econ.*, May 1979, *93*(2), pp. 303–19.

Comanor, W. S. and Wilson, T. A. The Effect of Advertising on Competition: A Survey. *J. Econ. Lit.*, June 1979, *17*(2), pp. 453–76.

Craypo, C. Markets: Actual and Potential: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 647–49.

• **Cross, J. G.** Reinforcement Theory and the Consumer Model. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 190–98.

• **Dansby, R. E. and Willig, R. D.** Industry Performance Gradient Indexes. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 249–60.

Dumas, L. J. Armament, Disarmament and National Security: A Theoretical Duopoly Model of the Arms Race. *J. Econ. Stud.*, May 1979, *6*(1), pp. 1–38.

Edwards, C. D. The Multimarket Enterprise and Economic Power: Remarks upon Receipt of the Veblen–Commons Award. *J. Econ. Issues*, June 1979, *13*(2), pp. 285–301.

Epple, D. and Raviv, A. Product Reliability and Market Structure. *Southern Econ. J.*, July 1979, *46*(1), pp. 280–87.

• **Erdös, T.** On the Changes of the Rate and Share of Profits. *Acta Oecon.*, 1977, *19*(3–4), pp. 319–42.

Felton, J. R. Markets: Actual and Potential: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 651–54.

• **Fishburn, P. C.** Transitivity. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 163–73.

• **Fisher, F. M.** Diagnosing Monopoly. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 7–33.

• **Forsythe, R.** Unanimity and the Theory of the Firm under Multiplicative Uncertainty. *Southern Econ. J.*, July 1979, *46*(1), pp. 218–32.

Fromm, G. and Ciccolo, J. "q" and the Theory of Investment. *J. Finance*, May 1979, *34*(2), pp. 535–47.

Fujimoto, T. Nonlinear Generalization of the Frobenius Theorem: A Symmetric Approach. *J. Math. Econ.*, March 1979, *6*(1), pp. 17–21.

Gandhi, D. K. and Saunders, A. Optimal Tax Structures and Risk Aversion. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 286–91.

Gaskins, D. W., Jr. and Haring, J. R., Jr. A Note on Unilateral Withholding. *Land Econ.*, February 1979, *55*(1), pp. 135–40.

• **Goldman, S. M.** Intertemporally Inconsistent Preferences and the Rate of Consumption. *Econometrica*, May 1979, *47*(3), pp. 621–26.

• **Gordon, I. M. and Knetsch, J. L.** Consumer's Surplus Measures and the Evaluation of Resources. *Land Econ.*, February 1979, *55*(1), pp. 1–10.

Gertz, E. On Relations between Price Elasticities and the Elasticity of Substitution in Consumption: A Reply. *Scand. J. Econ.*, 1979, *81*(1), pp. 117–18.

Graves, P. E. and Linneman, P. D. Household Migration: Theoretical and Empirical Results. *J. Urban Econ.*, July 1979, *6*(3), pp. 383–404.

• **Green, J. and Laffont, J.-J.** Satisfactory Mechanisms for Environments with Consumption Lower Bounds. *J. Econ. Theory*, December 1978, *19*(2), pp. 359–75.

• **Greenhut, M. L. and Ohta, H.** Output Effects of Spatial Price Discrimination under Conditions of Monopoly and Competition. *Southern Econ. J.*, July 1979, *46*(1), pp. 71–84.

• **Hart, O. D.** Monopolistic Competition in a Large Economy with Differentiated Commodities. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 1–30.

Hauser, J. R. and Urban, G. L. Assessment of Attribute Importances and Consumer Utility Functions: von Neumann-Morgenstern Theory Applied to Consumer Behavior. *J. Cons. Res.*, March 1979, *5*(4), pp. 251–62.

Hurwicz, L. and Richter, M. K. An Integrability Condition with Applications to Utility Theory and Thermodynamics. *J. Math. Econ.*, March 1979, *6*(1), pp. 7–14.

• **Hurwicz, L. and Richter, M. K.** Ville Axioms and Consumer Theory. *Econometrica*, May 1979, *47*(3), pp. 603–19.

• **Hwang, M.** A Model of Spatial Price Discrimination for the Pricing Schedule of Coal. *J. Reg. Sci.*, May 1979, *19*(2), pp. 231–43.

Jacobsen, S. E. On the Equivalence of Input and Output Market Marshallian Surplus Measures. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 423–28.

• **Jaynes, G. D.** Equilibria in Monopolistically Competitive Insurance Markets. *J. Econ. Theory*, December 1978, *19*(2), pp. 394–422.

• **Just, R. E. and Pope, R. D.** Production Function Estimation and Related Risk Considerations. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 276–84.

Kamerschen, D. R. and Rubin, P. H. The Differential Impact in Competition and Monopoly of a Change in Costs on Price and Quantity. *Amer. Econ.*, Spring 1979, *23*(1), pp. 41–43.

Keren, M. The Incentive Effects of Plan Targets and Priorities in a Disaggregated Model. *J. Compar. Econ.*, March 1979, *3*(1), pp. 1–26.

Kim, K. H. and Roush, F. W. Characterization of Certain Choice Functions. *J. Econ. Theory*,

certainty on Saving under Risk Preference Independence. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 73–82.

• **Sheshinski, E. and Weiss, Y.** Demand for Fixed Factors, Inflation and Adjustment Costs. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 31–45.

Sjoquist, D. L. An Analysis of Market Adjustments under a Price Floor. *Amer. Econ.*, Spring 1979, *23*(1), pp. 28–34.

Smith, R. E. A Theory for the Administered Price Phenomenon. *J. Econ. Issues*, June 1979, *13*(2), pp. 629–45.

Smith, V. K. On Relations between Price Elasticities and the Elasticity of Substitution in Consumption: A Comment. *Scand. J. Econ.*, 1979, *81*(1), pp. 115–16.

Tell, B. and Wallenius, J. A Survey of Multiple-Criteria Decision Methods and Applications: Utility Theory and Mathematical Programming. *Liiketaloudellinen Aikak.*, 1979, *28*(1), pp. 3–22.

• **Telser, L. G.** A Theory of Monopoly of Complementary Goods. *J. Bus.*, April 1979, *52*(2), pp. 211–30.

Vaughn, K. I. and Pfouts, R. W. Symmetry of Production Stages and Uneconomic Production: Further Reply. *Southern Econ. J.*, July 1979, *46*(1), pp. 303–06.

Wang, A.-Y. and Cheng, K.-S. Symmetry of Production Stages and Uneconomic Production: Comment. *Southern Econ. J.*, July 1979, *46*(1), pp. 298–302.

• **Weymark, J. A.** On Pareto-Improving Price Changes. *J. Econ. Theory*, December 1978, *19*(2), pp. 338–46.

Wickström, B.-A. Prepensely Prejudicing Preferences: Prologue to a Probe of Propaganda and Proselytizing. *Amer. Econ.*, Spring 1979, *23*(1), pp. 7–15.

Williamson, O. E. Williamson on Predatory Pricing II. *Yale Law J.*, May 1979, *88*(6), pp. 1183–1200.

• **Young, L.** Uncertainty, Market Structure, and Resource Allocation. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 47–59.

Zajac, E. E. Dupuit-Marshall Consumer's Surplus, Utility, and Revealed Preference. *J. Econ. Theory*, April 1979, *20*(2), pp. 260–70.

023 Macroeconomic Theory

Anderson, P. A. Rational Expectations Forecasts from Nonrational Models. *J. Monet. Econ.*, January 1979, *5*(1), pp. 67–80.

Angelopoulos, A. The Investment Crisis and the Approach of the Post-Keynesian Era. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 131–39.

Arestis, P.; Frowen, S. F. and Karakitsos, E. Die reale Geldmenge in einer volkswirtschaftlichen Produktionsfunktion. (Real Money Balances in an Aggregate Production Function: The Case of the Federal Republic of Germany. With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 155–76.

• **Barnett, W. A.** Theoretical Foundations for the Rotterdam Model. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 109–30.

Bell, C. The Behaviour of a Dual Economy under Different 'Closing Rules' *J. Devel. Econ.*, March 1979, *6*(1), pp. 47–72.

• **Bhalla, S. S.** Measurement Errors and the Permanent Income Hypothesis: Evidence from Rural India. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 295–307.

• **Borner, S.** Who Has the Right Policy Perspective, the OECD or Its Monetarist Critics? *Kyklos*, 1979, *32*(1/2), pp. 285–306.

• **Bronfenbrenner, M.** On the Locomotive Theory in International Macroeconomics. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 38–50.

Bronfenbrenner, M. On Dumping Gold. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 352–59.

Brown, G. P. and Rogers, C. Macroeconomics, Comparative Statics and the Correspondence Principle: A Critique. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 307–25.

Bruno, M. Income Distribution and the Neoclassical Paradigm: Introduction to a Symposium. *J. Devel. Econ.*, March 1979, *6*(1), pp. 3–10.

Bruno, M. Price and Output Adjustment: Micro Foundations and Aggregation. *J. Monet. Econ.*, April 1979, *5*(2), pp. 187–211.

• **Calvo, G. A.** On the Indeterminacy of Interest Rates and Wages with Perfect Foresight. *J. Econ. Theory*, December 1978, *19*(2), pp. 321–37.

Cohen, J. S. Conflict on the Left: Marxist Economists and the Friendly Enemy. *J. Econ. Hist.*, June 1979, *39*(2), pp. 481–86.

• **Cornwall, J.** Economic Growth: Two Paradigms. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 69–90.

Deschamps, R. Keynesian Economic Policies and Underemployment. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 81–95.

• **Dewald, W. G. and Marchon, M. N.** A Common Specification of Price, Output, and Unemployment Rate Responses to Demand Pressure and Import Prices in Six Industrial Countries. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 1–19.

• **Eichner, A. S.** A Post-Keynesian Short-Period Model. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 38–63.

• **Floyd, J. E. and Hynes, J. A.** Capital Immobility, Adjustment Costs, and the Theoretical Founda-

Supplement 1979, *10*, pp. 195–203.

• **Pesek, B. P.** A Note on the Theory of Permanent Income. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 64–69.

Plosser, C. I. and Schwert, G. W. Potential GNP: Its Measurement and Significance: A Dissenting Opinion. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 179–86.

Popovici, A. A. A Markovian Stochastic Model of the Profit's General Rate Formation. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 85–106.

Quaden, G. Have Keynesian Policies Had Their Day: Introductory Note. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 5–7.

• **Ramser, H. J.** Keynessche Inflations- und Kaldorsche Verteilungstheorie. (Keynes' Inflation Model and Kaldor's Distribution Theory.) *Kyklos*, 1979, *32*(1/2), pp. 205–18.

Robinson, J. Garegnani on Effective Demand. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 179–80.

Robinson, J. Has Keynes Failed? *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 27–29.

Robinson, J. Unwinding the Stagflation Puzzle. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 5–10.

• **Rødseth, A.** Macroeconomic Policy in a Small Open Economy. *Scand. J. Econ.*, 1979, *81*(1), pp. 48–59.

Sampson, A. A. Capital Asset Prices, Wealth Effects and Crowding Out in the Short Run. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 160–72.

Sargent, T. J. A Note on Maximum Likelihood Estimation of the Rational Expectations Model of the Term Structure. *J. Monet. Econ.*, January 1979, *5*(1), pp. 133–43.

Sargent, T. J. Causality, Exogeneity, and Natural Rate Models: Reply to C. R. Nelson and B. T. McCallum. *J. Polit. Econ.*, April 1979, *87*(2), pp. 403–09.

• **Sattinger, M.** Differential Rents and the Distribution of Earnings. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 60–71.

Sheehan, P.; Derody, B. and Rosendale, P. An Assessment of Recent Empirical Work Relevant to Macroeconomic Policy in Australia. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 33–61.

• **Steindl, J.** Stagnation Theory and Stagnation Policy. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 1–14.

• **Stoneman, P.** A Simple Diagrammatic Apparatus for the Investigation of a Macroeconomic Model of Temporary Equilibria. *Economica*, February 1979, *46*(181), pp. 61–66.

Svendsen, K. E. Alternativ teori om socialistisk forbrug i lyset af sovjetisk og polsk debat. (An Alternative Theory of Socialist Consumption. With English summary.) *Nationaløkon. Tidsskr.*, 1978, *116*(3), pp. 293–325.

Tanner, J. E. Fiscal Policy and Consumer Behavior. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 317–21.

Tatom, J. A. The Meaning and Measurement of Potential Output: A Comment on the Perloff and Wachter Results. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 165–78.

Taylor, L. and Lysy, F. J. Vanishing Income Redistributions: Keynesian Clues about Model Surprises in the Short Run. *J. Devel. Econ.*, March 1979, *6*(1), pp. 11–29.

Torr, C. S. W. The Rate of Unemployment as an Indicator of Aggregate Demand Conditions. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 90–99.

• **Tuchscherer, T.** Keynes' Model and the Keynesians: A Synthesis. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 96–109.

• **Turnovsky, S. J.** Inflationary Expectations in a Two-Sector Model of Wage-Price Determination. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 1–19.

Uebe, G. Noch eine Bemerkung zur deutschen Produktionskonjunktur. (A Note on the Cyclical Properties of German Production. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 203–06.

• **Weintraub, S.** Generalizing Kalecki and Simplifying Macroeconomics. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 101–06.

Weintraub, S. The Naked and the Nude: Professor Brems on Post Keynesians. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 138–39.

• **Wolff, E. N.** The Rate of Surplus Value, the Organic Composition, and the General Rate of Profit in the U.S. Economy, 1947–67. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 329–41.

Zind, R. G. A Note on the Measurement of Technical Bias in the U.S. Economy. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 301–04.

024 Welfare Theory

Albon, R. The Defunct Housing Allowance Experiment: Some Assumptions and Oversights. *Australian J. Manage.*, April 1979, *4*(1), pp. 1–11.

Aubin, J.-P. Monotone Evolution of Resource Allocations. *J. Math. Econ.*, March 1979, *6*(1), pp. 43–62.

Ayub, M. A. Property Rights and Externalities. *Pakistan Econ. Soc. Rev.*, Autumn–Winter 1977, *15*(3–4), pp. 197–201.

Polit. Econ., June 1979, *87*(3), pp. 501–21.

Mayshar, J. Should Government Subsidize Risky Private Projects? Reply. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 462–64.

• **McKee, A. F.** From a Theory of Economic Justice to Its Implementation. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 63–78.

McKenzie, G. W. Consumer's Surplus without Apology: Comment. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 465–68.

Roth, A. E. Proportional Solutions to the Bargaining Problem. *Econometrica*, May 1979, *47*(3), pp. 775–77.

• **Sharp, C. D.** The Environmental Impact of Transport and the Public Interest. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 88–101.

• **Shorrocks, A.** Income Inequality and Income Mobility. *J. Econ. Theory*, December 1978, *19*(2), pp. 376–93.

Stewart, M. B. Should Government Subsidize Risky Private Projects? Comment. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 459–61.

• **Takayama, N.** Poverty, Income Inequality, and Their Measures: Professor Sen's Axiomatic Approach Reconsidered. *Econometrica*, May 1979, *47*(3), pp. 747–59.

• **Ulph, D.** On Labour Supply and the Measurement of Inequality. *J. Econ. Theory*, December 1978, *19*(2), pp. 492–512.

• **Vehorn, C. L.** Market Interaction between Public and Private Goods: The Demand for Fire Protection. *Nat. Tax J.*, March 1979, *32*(1), pp. 29–39.

Wald, H. P. Comment: Normative Premises in Regulatory Theory. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 126–29.

• **Welch, R. L.** The Representation of Shadow Values in Resource Allocation Teams. *J. Econ. Theory*, February 1979, *20*(1), pp. 23–40.

• **Weymark, J. A.** On Pareto-Improving Price Changes. *J. Econ. Theory*, December 1978, *19*(2), pp. 338–46.

Willig, R. D. Consumer's Surplus without Apology: Reply. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 469–74.

• **Wolf, C., Jr.** A Theory of Nonmarket Failure: Framework for Implementation Analysis. *J. Law Econ.*, April 1979, *22*(1), pp. 107–39.

025 Social Choice; Bureaucratic Performance

Amacher, R. C. and Boyes, W. J. Macroeconomic Policies and Political Incentives in Democratic Governments: A Test of the Political Business Cycle. *ACES Bull.*, Spring 1979, *21*(1), pp. 49–59.

• **Barbera, S.** A Note on Group Strategy-Proof Decision Schemes. *Econometrica*, May 1979, *47*(3), pp. 637–40.

Brueckner, J. K. Spatial Majority Voting Equilibria and the Provision of Public Goods. *J. Urban Econ.*, July 1979, *6*(3), pp. 338–51.

• **Cohen, L.** Cyclic Sets in Multidimensional Voting Models. *J. Econ. Theory*, February 1979, *20*(1), pp. 1–12.

Crain, W. M.; Deaton, T. and Tollison, R. D. Toenote to a Footnote. *Econ. Inquiry*, April 1979, *17*(2), pp. 307–09.

Dunlevy, J. A. and Yeager, J. H., Jr. Legislators as Taxicabs: A Reconsideration. *Econ. Inquiry*, April 1979, *17*(2), pp. 303–06.

• **Frey, B. S.** Economic Policy by Constitutional Contract. *Kyklos*, 1979, *32*(1/2), pp. 307–19.

• **Green, J. and Laffont, J.-J.** Satisfactory Mechanisms for Environments with Consumption Lower Bounds. *J. Econ. Theory*, December 1978, *19*(2), pp. 359–75.

• **Greenberg, J.** Consistent Majority Rules over Compact Sets of Alternatives. *Econometrica*, May 1979, *47*(3), pp. 627–36.

Jennings, E. T., Jr. Competition, Constituencies, and Welfare Policies in American States. *Amer. Polit. Sci. Rev.*, June 1979, *73*(2), pp. 414–29.

• **Kalai, E.; Postlewaite, A. and Roberts, J.** A Group Incentive Compatible Mechanism Yielding Core Allocations. *J. Econ. Theory*, February 1979, *20*(1), pp. 13–22.

Kim, K. H. and Roush, F. W. Characterization of Certain Choice Functions. *J. Econ. Theory*, April 1979, *20*(2), pp. 271–75.

Kramer, G. H. Robustness of the Median Voter Result. *J. Econ. Theory*, December 1978, *19*(2), pp. 565–67.

• **McKee, A. F.** From a Theory of Economic Justice to Its Implementation. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 63–78.

Nermuth, M. Minimal Conditions for Upper-Hemicontinuity of the Choice Correspondence. *J. Econ. Theory*, December 1978, *19*(2), pp. 558–60.

O'Dowd, M. C. The Problem of "Government Failure" in Mixed Economies. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 360–70.

• **Ott, A. E.** Über die Definition eines Verteilungszieles. (On the Definition of a Distribution Target.) *Kyklos*, 1979, *32*(1/2), pp. 320–30.

Richelson, J. T. A Characterization Result for the Plurality Rule. *J. Econ. Theory*, December 1978, *19*(2), pp. 548–50.

Rose-Ackerman, S. Market Models of Local Government: Exit, Voting and the Land Market. *J. Urban Econ.*, July 1979, *6*(3), pp. 319–37.

Roth, A. E. Proportional Solutions to the Bargaining Problem. *Econometrica*, May 1979, *47*(3), pp. 775–77.

trol of Industry: Railroads. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 213–39.

• **Finn, D. R.** Objectivity in Economics: On the Choice of a Scientific Method. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 37–61.

Garegnani, P. Notes on Consumption, Investment and Effective Demand: A Reply to Joan Robinson. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 181–87.

• **Garegnani, P.** Notes on Consumption, Investment and Effective Demand: II. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 63–82.

• **Grampp, W. D.** Adam Smith and the American Revolutionists. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 179–91.

Grebenik, E. David Victor Glass (1911-1978) *Population Stud.*, March 1979, *33*(1), pp. 5–17.

• **Heilbroner, R. L.** Modern Economics as a Chapter in the History of Economic Thought. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 192–98.

• **Hennings, K. H.** George Darwin, Jevons, and the Rate of Interest. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 199–212.

• **Hettich, W.** Henry Simons on Taxation and the Economic System. *Nat. Tax J.*, March 1979, *32*(1), pp. 1–9.

Hicks, J. Capital, Expectations and the Market Process (Review Note) *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 400–402.

Hicks, J. The Ricardian System: A Comment. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 133–34.

Hill, L. E. Methods and Data in Economic Inquiry: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 383–85.

Jaeger, H. Fritz Leonhard Redlich. *Bus. Hist. Rev.*, Summer 1979, *53*(2), pp. 155–60.

Jha, D. Relevance of Malthusian Economics. *Indian Econ. J.*, January–March 1979, *26*(3), pp. 34–39.

• **Jonung, L.** Knut Wicksell and Gustav Cassel on Secular Movements in Prices. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 165–81.

Joseph, S. C. Relevance of Malthusian Economics. *Indian Econ. J.*, January–March 1979, *26*(3), pp. 89–114.

• **Kaldor, N.** An Introduction to "A Note on the General Theory" *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 3–5.

Kenen, P. B. Taking the Long View: Rostow on Prospects for the World Economy. *Polit. Sci. Quart.*, Summer 1979, *94*(2), pp. 339–42.

Khosla, R. Malthus's Theory of Gluts: A Political-Economic View. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 117–37.

• **Kurz, H. D.** Sraffa after Marx. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 52–70.

Lambert, P. From the Classical to the Keynesian Theory. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 9–25.

de Largentaye, J. A Note on the *General Theory of Employment, Interest and Money. J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 6–15.

• **Liebermann, Y.** Elements in Talmudic Monetary Thought. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 254–70.

• **Martin, D. T.** Alternative Views of Mengerian Entrepreneurship. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 271–85.

Martin, D. D. Our Changing Order. *J. Econ. Issues*, June 1979, *13*(2), pp. 303–16.

• **Milgate, M.** On the Origin of the Notion of "Intertemporal Equilibrium" *Economica*, February 1979, *46*(181), pp. 1–10.

Mishra, G. P. Malthusian Economics of Growth and Development: A Critique. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 167–83.

Mishra, R. Technology and Social Structure in Marx's Theory: An Exploratory Analysis. *Sci. Soc.*, Summer 1979, *43*(2), pp. 132–57.

• **Moody, R. E.** Economists and Economic Change. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 110–19.

• **Oakley, A.** Aspects of Marx's *Grundrisse* as Intellectual Foundations for a Major Theme of *Capital. Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 286–302.

Peitchinis, S. G. Keynes and the Steady State Economy. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 141–52.

Popovici, A. A. A Markovian Stochastic Model of the Profit's General Rate Formation. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 85–106.

Quaden, G. Have Keynesian Policies Had Their Day: Introductory Note. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 5–7.

Reid, G. C. Forchheimer on Partial Monopoly. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 303–08.

Robinson, J. Garegnani on Effective Demand. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 179–80.

Robinson, J. Has Keynes Failed? *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 27–29.

• **Rousseas, S.** Rosa Luxemburg and the Origins of Capitalist Catastrophe Theory. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 3–23.

Roy, H. N. Towards a Reappraisal of Malthus as an Analyst—An Overrated or an Underrated Economist? *Indian Econ. J.*, July–September 1978, *26*(1), pp. 138–56.

036 Economic Methodology

040 Economic History

041 Economic History: General

042 Economic History: North America (excluding Mexico)

Lewis, W. D. and Newton, W. P. The Delta-C&S Merger: A Case Study in Airline Consolidation and Federal Regulation. *Bus. Hist. Rev.*, Summer 1979, *53*(2), pp. 161–79.

Nash, G. B. The Failure of Female Factory Labor in Colonial Boston. *Labor Hist.*, Spring 1979, *20*(2), pp. 166–88.

Olmstead, A. L. The Diffusion of the Reaper: One More Time! *J. Econ. Hist.*, June 1979, *39*(2), pp. 475–76.

Ransom, R. and Sutch, R. Credit Merchandising in the Post-Emancipation South: Structure, Conduct, and Performance. *Exploration Econ. Hist.*, January 1979, *16*(1), pp. 64–89.

Ransom, R. L. and Sutch, R. Growth and Welfare in the American South of the Nineteenth Century. *Exploration Econ. Hist.*, April 1979, *16*(2), pp. 207–36.

Reid, J. D., Jr. White Land, Black Labor, and Agricultural Stagnation: The Causes and Effects of Sharecropping in the Postbellum South. *Exploration Econ. Hist.*, January 1979, *16*(1), pp. 31–55.

Salamon, L. M. The Time Dimension in Policy Evaluation: The Case of the New Deal Land-Reform Experiments. *Public Policy*, Spring 1979, *27*(2), pp. 129–83.

Soltow, L. and May, D. L. The Distribution of Mormon Wealth and Income in 1857. *Exploration Econ. Hist.*, April 1979, *16*(2), pp. 151–62.

Sushka, M. E. The Antebellum Money Market and the Economic Impact of the Bank War: A Reply. *J. Econ. Hist.*, June 1979, *39*(2), pp. 467–74.

Temin, P. Freedom and Coercion: Notes on the Analysis of Debt Peonage in One Kind of Freedom. *Exploration Econ. Hist.*, January 1979, *16*(1), pp. 56–63.

Winpenny, T. R. Hard Data on Hard Coal: Reflections on Chandler's Anthracite Thesis. *Bus. Hist. Rev.*, Summer 1979, *53*(2), pp. 247–55.

Wright, G. Freedom and the Southern Economy. *Exploration Econ. Hist.*, January 1979, *16*(1), pp. 90–108.

043 Economic History: Ancient and Medieval

• **Berlow, R. K.** The Sailing of the "Saint Esprit" *J. Econ. Hist.*, June 1979, *39*(2), pp. 345–62.

044 Economic History: Europe

Abel, A., et al. Money Demand during Hyperinflation. *J. Monet. Econ.*, January 1979, *5*(1), pp. 97–104.

• **Benjamin, D. K. and Kochin, L. A.** Searching for an Explanation of Unemployment in Interwar Britain. *J. Polit. Econ.*, June 1979, *87*(3), pp. 441–78.

• **Boyer, R.** Wage Formation in Historical Perspective: The French Experience. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 99–118.

• **Broad, J. P. F.** Gentry Finances and the Civil War: The Case of the Buckinghamshire Verneys. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 183–200.

Chapman, S. D. British Marketing Enterprise: The Changing Roles of Merchants, Manufacturers, and Financiers, 1700–1860. *Bus. Hist. Rev.*, Summer 1979, *53*(2), pp. 205–34.

• **Ekelund, R. B., Jr. and Price, E. O., III.** Sir Edwin Chadwick on Competition and the Social Control of Industry: Railroads. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 213–39.

• **Eltis, D.** The British Contribution to the Nineteenth-Century Transatlantic Slave Trade. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 211–27.

Frenkel, J. A. Further Evidence on Expectations and the Demand for Money during the German Hyperinflation. *J. Monet. Econ.*, January 1979, *5*(1), pp. 81–96.

Gittins, L. Innovations in Textile Bleaching in Britain in the Eighteenth Century. *Bus. Hist. Rev.*, Summer 1979, *53*(2), pp. 194–204.

• **Gregory, P. R.** The Russian Balance of Payments, the Gold Standard, and Monetary Policy: A Historical Example of Foreign Capital Movements. *J. Econ. Hist.*, June 1979, *39*(2), pp. 379–99.

Hohenberg, P. M. The Transformation of Agricultural Labor Supply in Nineteenth-Century France: Comment. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 261–66.

• **Jonung, L. and Wadensjö, E.** Wages and Prices in Sweden, 1912–1921: A Retrospective Test. *Scand. J. Econ.*, 1979, *81*(1), pp. 60–71.

• **Kennedy, L.** Traders in the Irish Rural Economy, 1880–1914. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 201–10.

• **McClure, P.** Patterns of Migration in the Late Middle Ages: The Evidence of English Place-Name Surnames. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 167–82.

• **Overton, M.** Estimating Crop Yields from Probate Inventories: An Example from East Anglia, 1585–1735. *J. Econ. Hist.*, June 1979, *39*(2), pp. 363–78.

Price, R. On Agricultural Labor Supply in Nineteenth-Century France: A Rejoinder. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 267–69.

• **Pryor, Z. P.** Czechoslovak Fiscal Policies in the Great Depression. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 228–40.

Rucker, R. D. Workers' Control of Production

- • **Hettich, W.** Henry Simons on Taxation and the Economic System. *Nat. Tax J.*, March 1979, *32*(1), pp. 1–9.
- **Kawakami, T.** The Crisis of the Capitalist World: A Marxist View. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 189–202.
- • **Kurz, H. D.** Sraffa after Marx. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 52–70.
- **Lauterbach, A.** Intolerance, Violence and Social Change: Rebellion versus Revolution. *ACES Bull.*, Spring 1979, *21*(1), pp. 61–86.
- **Loescher, S. M.** Limiting Corporate Power. *J. Econ. Issues*, June 1979, *13*(2), pp. 557–71.
- **Martinson, O. B. and Campbell, G. R.** Social Network Analysis: Suggested Applications to Economic Control. *J. Econ. Issues*, June 1979, *13*(2), pp. 471–87.
- **McCalmont, D. B.** Consumer Cooperatives. *Ohio State U. Bull. Bus. Res.*, January–February 1978, *54*(1–2), pp. 6–8.
- **Monsen, R. J.** The Future of American Capitalism. *Calif. Manage. Rev.*, Spring 1979, *21*(3), pp. 5–16.
- **Murrell, P.** Planning and Coordination of Economic Policy in Market Economies. *J. Compar. Econ.*, June 1979, *3*(2), pp. 145–66.
- **Nowotny, K.** Private Property: With or without Power. *J. Econ. Issues*, June 1979, *13*(2), pp. 489–503.
- **O'Dowd, M. C.** The Problem of "Government Failure" in Mixed Economies. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 360–70.
- **Parrillo, F.** The Cooperative Banks and Their Role in the Italian Economy. *Rev. Econ. Cond. Italy*, September–November 1978, *32*(5–6), pp. 317–30.
- **Peterson, R. D.** Clarence E. Ayres Memorial Session: Nonmarket Corporate Control Networks: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 509–12.
- **Popovici, A. A.** A Markovian Stochastic Model of the Profit's General Rate Formation. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 85–106.
- **Ristimäki, J.** Kykenemmenkö johdonmukaiseen teollisuuspolittiseen linjanvetoon? (Is Finland Able to Assume a Consistent Industrial Policy Strategy? With English summary.) *Kansant. Aikak.*, 1979, *75*(1), pp. 19–34.
- • **Rousseas, S.** Rosa Luxemburg and the Origins of Capitalist Catastrophe Theory. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 3–23.
- **Samuels, W. J.** Clarence E. Ayres Memorial Session: Nonmarket Corporate Control Networks: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 505–06.
- **Šedivec, V.** Economic Integration among Advanced Capitalist States. *Czech. Econ. Digest.*, February 1979, (1), pp. 60–74.
- **Stevens, R. W.** The Corporate State: Its Manifestations and Containments: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 573–78.
- **Strigel, W. H.** Fehlendes Vertrauen als Wachstumsbremse: Ergebnisse und Folgerungen aus qualitativen Unternehmerbefragungen. (Lack of Confidence Slows Growth. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 21–41.
- **Taliaferro, R. T.** Clarence E. Ayres Memorial Session: Nonmarket Corporate Control Networks: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 507–08.
- • **Wolff, E. N.** The Rate of Surplus Value, the Organic Composition, and the General Rate of Profit in the U.S. Economy, 1947–67. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 329–41.

052 Socialist and Communist Economic Systems

- **Ambartsumov, A.** On the Question of Equivalence in Exchange between Industry and Agriculture. *Prob. Econ.*, April 1979, *21*(12), pp. 39–45.
- **Bagrova, I.** Reflecting the Differentiation of Labor Resources in Socioeconomic Forecasting. *Prob. Econ.*, February 1979, *21*(10), pp. 23–34.
- **Brubaker, E. R.** Elements of Soviet Thought on Collective Consumption. *ACES Bull.*, Spring 1979, *21*(1), pp. 37–47.
- **Enache, M.** Notes on the Use of Market-Oriented Urban Games in the Context of Planned Economies. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 47–58.
- **Feiwel, G. R.** Price Reform and Inflation in Soviet-type Economies. *Nationaløkon. Tidsskr.*, 1978, *116*(3), pp. 326–41.
- **Gorizontov, B. and Prokudin, V.** Environmental Protection in Comecon Member Nations. *Prob. Econ.*, December 1978, *21*(8), pp. 24–40.
- **Kempný, J.** The Role of Scientific Management in the Construction of an Advanced Socialist Society. *Czech. Econ. Digest.*, May 1979, (3), pp. 3–33.
- **Keren, M.** The Incentive Effects of Plan Targets and Priorities in a Disaggregated Model. *J. Compar. Econ.*, March 1979, *3*(1), pp. 1–26.
- **Lér, L.** Improvement of the System of Management of the Czechoslavak Economy. *Czech. Econ. Digest.*, February 1979, (1), pp. 36–43.
- **Lisitsian, N.** Effectiveness of the Circulation Sphere (Methodological Problems) *Prob. Econ.*, March 1979, *21*(11), pp. 77–95.
- **Mănescu, M.** Economic Logistics and Quantum. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(4), pp. 15–63.
- **Mănescu, M.** Economic Space and Economic

053 Comparative Economic Systems

100 Economic Growth; Development; Planning; Fluctuations

110 Economic Growth; Development; and Planning Theory and Policy

111 Economic Growth Theory and Models

ing Criterion. *J. Math. Econ.*, March 1979, *6*(1), pp. 85–111.

Nikaido, H. Pathology of Neoclassical Growth. (In Japanese. With English summary.) *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 1–9.

Peitchinis, S. G. Keynes and the Steady State Economy. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 141–52.

Sahay, R. Ricardo and Growth Theories. *Econ. Aff.*, September–October 1978, *23*(9–10), pp. 370–77.

• Schefold, B. Capital, Growth, and Definitions of Technical Progress. *Kyklos*, 1979, *32*(1/2), pp. 236–50.

Schüler, K. W. Auswirkungen des investitionsinduzierten technischen Fortschritts auf das gesamtwirtschaftliche Wachstum. (Investment Induced Technical Progress: Effects on Macroeconomic Growth. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 43–105.

• Streissler, E. Growth Models as Diffusion Processes. *Kyklos*, 1979, *32*(1/2), pp. 251–69.

112 Economic Development Models and Theories

Aftab, K. Does Education Accelerate Economic Growth? An Assessment of McClelland's Hypothesis. *Pakistan Econ. Soc. Rev.*, Autumn–Winter 1977, *15*(3–4), pp. 127–51.

• Bardhan, P. K. Wages and Unemployment in a Poor Agrarian Economy: A Theoretical and Empirical Analysis. *J. Polit. Econ.*, June 1979, *87*(3), pp. 479–500.

Becsky, R. Economic Development Orientation in Hungary—A Press Debate. *Acta Oecon.*, 1977, *19*(3–4), pp. 395–408.

Bell, C. The Behaviour of a Dual Economy under Different 'Closing Rules' *J. Devel. Econ.*, March 1979, *6*(1), pp. 47–72.

Bequele, A. and Freedman, D. H. Employment and Basic Needs: An Overview. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 315–29.

Black, P. A. Growth, Exploitation and the Lewis Model: Comment. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 100–103.

Blomqvist, A. G. Urban Unemployment and Optimal Tax Policy in a Small, Open Dual Economy. *J. Devel. Stud.*, January 1979, *15*(2), pp. 147–64.

• Blümle, G. Wirtschaftliche Entwicklung und personelle Einkommensverteilung in Entwicklungsländern. (Economic Development and Personal Income Distribution in Developing Countries.) *Kyklos*, 1979, *32*(1/2), pp. 145–61.

Bohnet, M. Instrumente der Entwicklungshilfe. (Instruments of Development Assistance. With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 43–74.

Chen, E. K. Y. Kaldor's Laws and the Developing Countries: An Empirical Study. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 274–85.

Dell, S. Basic Needs or Comprehensive Development: Should the UNDP Have a Development Strategy? *World Devel.*, March 1979, *7*(3), pp. 291–308.

Desai, N. Foreign Trade Regimes and Economic Development: Review Article. *Indian Econ. Rev.*, October 1978, *13*(2), pp. 167–72.

Galbis, V. Money, Investment, and Growth in Latin America, 1961–1973. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 423–43.

Giersch, H. Über die Zukunft der Weltwirtschaft. (With English summary.) *Aussenwirtschaft*, March 1979, *34*(1), pp. 12–26.

• Giersch, H. Märkte und Unternehmen in der wachsenden weltwirtschaft. (Markets and Business Enterprises in the Growing World Economy.) *Kyklos*, 1979, *32*(1/2), pp. 25–35.

Gowda, M. V. S. Technology of Multinational Enterprises and Labour Absorption in Developing Countries. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 168–78.

Guru, D. D. Multinational Corporations and Developing Economies. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 99–114.

Hansen, B. Colonial Economic Development with Unlimited Supply of Land: A Ricardian Case. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 611–27.

Hawrylyshyn, O. A Geometric Exposition of LDC Unemployment via Third-Factor Shortages. *Soc. Econ. Stud.*, June 1978, *27*(2), pp. 221–26.

Higgins, B. Development Economics in the United States: A Rejoinder. *J. Devel. Stud.*, January 1979, *15*(2), pp. 248.

Higgins, B. Development Economics in the United States: A Comment. *J. Devel. Stud.*, January 1979, *15*(2), pp. 242–46.

Hughes, H. Debt and Development: The Role of Foreign Capital in Economic Growth. *World Devel.*, February 1979, *7*(2), pp. 95–112.

Krane, D. Longitudinal Patterns of Centralization and Development: Testing Theories of Government Organization. *J. Devel. Areas*, April 1978, *12*(3), pp. 297–314.

Lipton, M. 'Perverse' Responses by Factor Users to Factor Cost Changes: Need Policy Advisors Worry? *J. Devel. Econ.*, March 1979, *6*(1), pp. 73–78.

Long, F. The Role of Social Scientific Inquiry in Technology Transfer. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 261–74.

Love, J. A Model of Trade Diversification Based on the Markowitz Model of Portfolio Analysis. *J. Devel. Stud.*, January 1979, *15*(2), pp. 233–41.

113 **Economic Planning Theory and Policy**

(Mathematic Apparatus of Synthetic Efficiency Indicators Construction. With English summary.) *Ekon.-Mat. Obzor*, 1979, *15*(1), pp. 20–32.

Miller, J. B. Meade on Indicative Planning: A Review of Informational Problems. *J. Compar. Econ.*, March 1979, *3*(1), pp. 27–40.

Murrell, P. Planning and Coordination of Economic Policy in Market Economies. *J. Compar. Econ.*, June 1979, *3*(2), pp. 145–66.

Nekrasov, N. Problems in the Deployment of Productive Forces in the USSR. *Prob. Econ.*, March 1979, *21*(11), pp. 22–39.

• **Németh, K.** Long-Term Foreign Economic Policy and Development of the Production Structure in Hungary. *Acta Oecon.*, 1977, *19*(3–4), pp. 237–53.

Rosati, D. The Use of Foreign Trade in Carrying out the Strategy of Economic Development. *Eastern Europ. Econ.*, Spring 1979, *17*(3), pp. 44–62.

Rutgaizer, V. and Saenko, O. Using the Rational Consumption Budget in Planning the Standard of Living. *Prob. Econ.*, January 1979, *21*(9), pp. 3–21.

Senchagov, V. Development of the Socialist Economic Mechanism. *Prob. Econ.*, December 1978, *21*(8), pp. 85–104.

Soukup, P. The Concept of the Place and Role of Social Needs in Planned Price Setting. *Eastern Europ. Econ.*, Spring 1979, *17*(3), pp. 19–43.

Subotskii, I. Concentration of Production and Small Enterprises. *Prob. Econ.*, January 1979, *21*(9), pp. 22–43.

Vitin, A. The Effectiveness of Nonproductive Capital Investments. *Prob. Econ.*, March 1979, *21*(11), pp. 58–76.

Yu, Y. C. The Population Policy of China. *Population Stud.*, March 1979, *33*(1), pp. 125–42.

114 Economics of War, Defense, and Disarmament

Deutsch, E. The Sensitivity of the Austrian Economy in the Case of an External Crisis. *Écon. Appl.*, 1978, *31*(3–4), pp. 547–60.

Dumas, L. J. Armament, Disarmament and National Security: A Theoretical Duopoly Model of the Arms Race. *J. Econ. Stud.*, May 1979, *6*(1), pp. 1–38.

120 Country Studies

121 Economic Studies of Less Industrialized Countries

Abbott, G. C. Effects of Recent Changes in the International Monetary System on the Developing Countries. *Aussenwirtschaft*, March 1979, *34*(1), pp. 59–76.

Adams, M. E. and Howell, J. Developing the Traditional Sector in the Sudan. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 505–18.

• **Bálint, J.** Lenin o sootnosheniy ekonomiki i politiki. (Lenin about the Relationship between Economy and Policy. In Russian. With English summary.) *Acta Oecon.*, 1977, *19*(3–4), pp. 255–75.

• **Blümle, G.** Wirtschaftliche Entwicklung und personelle Einkommensverteilung in Entwicklungsländern. (Economic Development and Personal Income Distribution in Developing Countries.) *Kyklos*, 1979, *32*(1/2), pp. 145–61.

Booth, A. The Agricultural Surveys, 1970–75. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 45–68.

Bruno, M. Income Distribution and the Neoclassical Paradigm: Introduction to a Symposium. *J. Devel. Econ.*, March 1979, *6*(1), pp. 3–10.

Chen, E. K. Y. Kaldor's Laws and the Developing Countries: An Empirical Study. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 274–85.

Chu, K. and Feltenstein, A. Extraordinary Inflation: The Argentine Experience. *Finance Develop.*, June 1979, *16*(2), pp. 32–35.

Crittenden, A. Israel's Economic Plight. *Foreign Aff.*, Summer 1979, *57*(5), pp. 1005–16.

Dholakia, R. H. State Income Inequalities in India and Interstate Variations in Price Movements. *Artha-Vikas*, January–June 1978, *14*(1), pp. 26–40.

Dick, H. Survey of Recent Developments. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 1–44.

Farrell, T. M. A. The Unemployment Crisis in Trinidad and Tobago: Its Current Dimensions and Some Projections to 1985. *Soc. Econ. Stud.*, June 1978, *27*(2), pp. 117–52.

Fisk, C. and Rimlinger, F. Nonparametric Estimates of LDC Repayment Prospects. *J. Finance*, May 1979, *34*(2), pp. 429–36.

Gable, R. W. and Springer, J. F. Administrative Implications of Development Policy: A Comparative Analysis of Agricultural Programs in Asia. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 687–703.

Galbis, V. Money, Investment, and Growth in Latin America, 1961–1973. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 423–43.

• **van Ginneken, W.** Socio-Economic Groups and Income Distribution in Mexico. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 331–42.

Jaidah, A. M. Downstream Operations and the Development of OPEC Member Countries. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 304–12.

122 Economic Studies of More Industrialized Countries

of Utilization of Capital Investments in the National Economy. *Prob. Econ.*, January 1979, *21*(9), pp. 62–82.

Moore, A. M. Fact and Fantasy in the Unity Debate. *Can. Public Policy,* Spring 1979, *5*(2), pp. 206–22.

Riach, P. A. and Richards, G. M. The Lesson of the Cameron Experiment. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 21–35.

Rowley, C. K. Liberalism and Collective Choice. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 11–22.

Schroeder, G. E. and Greenslade, R. V. On the Measurement of the Second Economy in the USSR. *ACES Bull.*, Spring 1979, *21*(1), pp. 3–21.

Spitaels, G. The Unemployment Absorption Programme in Belgium. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 147–63.

Stone, J. A. Price Elasticities of Demand for Imports and Exports: Industry Estimates for the U.S., the E.E.C. and Japan. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 306–12.

Subotskii, I. Concentration of Production and Small Enterprises. *Prob. Econ.*, January 1979, *21*(9), pp. 22–43.

• **Vyas, A.** Primary Accumulation in the USSR Revisited. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 119–30.

• **Wilson, J. F. and Takacs, W. E.** Differential Responses to Price and Exchange Rate Influences in the Foreign Trade of Selected Industrial Countries. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 267–79.

123 Comparative Economic Studies Involving Both More and Less Industrialized Countries; Int'l Statistical Comparisons

Askanas, B.; Askanas, H. and Levcik, F. The Economy of the CMEA Countries in the Second Half of the Seventies. *Eastern Europ. Econ.*, Spring 1979, *17*(3), pp. 62–76.

Buira Seira, A. The World Economy, External Debt and Prospects for Development Financing. *World Devel.*, February 1979, *7*(2), pp. 125–33.

Krane, D. Longitudinal Patterns of Centralization and Development: Testing Theories of Government Organization. *J. Devel. Areas*, April 1978, *12*(3), pp. 297–314.

• **Maddison, A.** Per Capita Output in the Long Run. *Kyklos*, 1979, *32*(1/2), pp. 412–29.

• **Miles, M. A.** The Effects of Devaluation on the Trade Balance and the Balance of Payments: Some New Results. *J. Polit. Econ.*, June 1979, *87*(3), pp. 600–20.

Stavig, G. R. The Impact of Population Growth on the Economy of Countries. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 735–50.

• **Thirlwall, A. P.** The Balance of Payments Constraint as an Explanation of International Growth Rate Differences. *Banca Naz. Lavoro Quart. Rev.*, March 1979, (128), pp. 45–53.

130 Economic Fluctuations; Forecasting; Stabilization; and Inflation

131 Economic Fluctuations

Amacher, R. C. and Boyes, W. J. Macroeconomic Policies and Political Incentives in Democratic Governments: A Test of the Political Business Cycle. *ACES Bull.*, Spring 1979, *21*(1), pp. 49–59.

• **Barker, T. S.** Identification of Activity Effects, Trends and Cycles in Import Demand. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 63–68.

• **Butz, W. P. and Ward, M. P.** The Emergence of Countercyclical U.S. Fertility. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 318–28.

Cypher, J. M. The Transnational Challenge to the Corporate State. *J. Econ. Issues*, June 1979, *13*(2), pp. 513–42.

Dahmén, E. Den svenska krisen. (The Swedish Crisis. With English summary.) *Ekon. Samfundets Tidskr.*, 1979, *32*(1), pp. 37–57.

• **Fusfeld, D. R.** The Next Great Depression. *Nebr. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 3–13.

Hargreaves-Heap, S. P. The Post-War International Business Cycle. *J. Econ. Stud.*, May 1979, *6*(1), pp. 106–28.

Hughes, J. J. and Thirlwall, A. P. Trends and Cycles in Import Penetration in the UK: Reply. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 78–80.

Uebe, G. Noch eine Bemerkung zur deutschen Produktionskonjunktur. (A Note on the Cyclical Properties of German Production. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 203–06.

Waris, K. Vår strukturkis. (Our Structural Crisis. With English summary.) *Ekon. Samfundets Tidskr.*, 1979, *32*(1), pp. 59–61.

Whitley, J. D. and Wilson, R. A. Trends and Cycles in Import Penetration in the UK: Comment. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 69–77.

132 Economic Forecasting and Econometric Models

• **Aghevli, B. B. and Rodriguez, C. A.** Trade, Prices, and Output in Japan: A Simple Monetary Model. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 38–54.

Model: Reality or Illusion? *J. Money, Credit, Banking,* May 1979, *11*(2), pp. 151–64.

Richards, R. M. and Martin, J. D. Revisions in Earnings Forecasts: How Much Response? *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 47–52.

• **Ryscavage, P. M.** BLS Labor Force Projections: A Review of Methods and Results. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 15–22.

• **Waslander, H. E. L.** The Dynamic Properties of CANDIDE Model 1.2M. *Can. J. Econ.*, May 1979, *12*(2), pp. 139–50.

Westerhoff, H.-D. Die Erklärung industrieller Anlageinvestitionen mit dynamischen Akzeleratomodellen. (With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 127–74.

133 General Outlook and Stabilization Theories and Policies

• **Argy, V. and Salop, J.** Price and Output Effects of Monetary and Fiscal Policy under Flexible Exchange Rates. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 224–56.

• **Auld, D. A. L., et al.** The Impact of the Anti-Inflation Board on Negotiated Wage Settlements. *Can. J. Econ.*, May 1979, *12*(2), pp. 195–213.

• **Borner, S.** Who Has the Right Policy Perspective, the OECD or Its Monetarist Critics? *Kyklos*, 1979, *32*(1/2), pp. 285–306.

• **Brown, W. M.** Employment vs. Unemployment Data as Macro-Policy Guides. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 70–82.

• **Brown, W.** Engineering Wages and the Social Contract, 1975–1977. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 51–61.

Buira Seira, A. The World Economy, External Debt and Prospects for Development Financing. *World Devel.*, February 1979, *7*(2), pp. 125–33.

• **Buiter, W. H. and Owen, R. F.** How Successful Has Stabilization Policy been in the Netherlands? A Neo-Keynesian Perspective. *De Economist*, 1979, *127*(1), pp. 58–104.

Carlson, K. M. Formulating Economic Policy for 1979 and Beyond: Old Problems and New Constraints. *Fed. Res. Bank St. Louis Rev.*, April 1979, *61*(4), pp. 2–9.

Christ, C. F. The Economic Policy Proposals of the Joint Economic Committee of the 94th and 95th U.S. Congresses, 1975 through September of 1978. *J. Monet. Econ.*, July 1979, *5*(3), pp. 375–95.

• **Colander, D.** Incomes Policies: MIP, WIPP, and TIP. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 91–100.

• **Csikós-Nagy, B.** Inflation Theory and Anti-Inflation Policy. *Acta Oecon.*, 1977, *19*(3–4), pp. 299–317.

Dahmén, E. Den svenska krisen. (The Swedish Crisis. With English summary.) *Ekon. Samfundets Tidskr.*, 1979, *32*(1), pp. 37–57.

Davidson, L. S. Large Changes: Pitfalls in Econometric Practice. *J. Econ. Issues*, June 1979, *13*(2), pp. 329–45.

• **Fusfeld, D. R.** The Next Great Depression. *Nebr. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 3–13.

Giersch, H. Über die Zukunft der Weltwirtschaft. (With English summary.) *Aussenwirtschaft*, March 1979, *34*(1), pp. 12–26.

Halpern, J. D. The Effectiveness of Temporary Changes in the Federal Personal Income Tax. *New Eng. Econ. Rev.*, March/April 1979, pp. 32–42.

• **Jager, H.** The Impact of the Exchange Rate System on the Effectiveness and Implementation of Stabilization Policy in the Netherlands. *De Economist*, 1979, *127*(1), pp. 143–86.

Karp, G. and Yohe, G. W. The Optimal Linear Alternative to Price and Quantity Controls in the Multifirm Case. *J. Compar. Econ.*, March 1979, *3*(1), pp. 56–65.

• **Knoester, A.** On Monetary and Fiscal Policy in an Open Economy. *De Economist*, 1979, *127*(1), pp. 105–42.

Korkman, S. Finanssipolitiikka ja työttömyysongelma. (Fiscal Policy and the Unemployment Problem. With English summary.) *Kansant. Aikak.*, 1979, *75*(2), pp. 148–58.

L'Esperance, W. L. An Optimal Control of a State Econometric Model. *Growth Change*, April 1979, *10*(2), pp. 30–39.

Laidler, D. Recent Macroeconomic Policy Proposals of the Joint Economic Committee of the U.S. Congress: A Critique. *J. Monet. Econ.*, July 1979, *5*(3), pp. 397–412.

• **Lee, D. R.** Price Controls on Non-Renewable Resources: An Intertemporal Analysis. *Southern Econ. J.*, July 1979, *46*(1), pp. 179–88.

de Leeuw, F. A Comment on the Meiselman and Roberts [The Political Economy of the Congressional Budget Office] Paper. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 335–47.

McCallum, B. T. and Whitaker, J. K. The Effectiveness of Fiscal Feedback Rules and Automatic Stabilizers under Rational Expectations. *J. Monet. Econ.*, April 1979, *5*(2), pp. 171–86.

Meiselman, D. I. and Roberts, P. C. The Political Economy of the Congressional Budget Office. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 283–333.

• **Neumark, F.** Wandlungen in der Beurteilung eingebauter Steuerflexibilität. (Changes in the Appraisal of Built-in Tax Flexibility.) *Kyklos*,

134 Inflation and Deflation

velop., June 1979, *16*(2), pp. 32–35.

Corden, W. M. Wages, Inflation and Unemployment. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 69–70.

Cripps, F. Wages and Unemployment—A Non-Monetarist Rejoinder. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 175–77.

• **Csikós-Nagy, B.** Inflation Theory and Anti-Inflation Policy. *Acta Oecon.*, 1977, *19*(3–4), pp. 299–317.

Dalton, J. A. and Qualls, P. D. Market Structure and Inflation. *Antitrust Bull.*, Spring 1979, *24*(1), pp. 17–42.

• **Dewald, W. G. and Marchon, M. N.** A Common Specification of Price, Output, and Unemployment Rate Responses to Demand Pressure and Import Prices in Six Industrial Countries. *Welt-wirtsch. Arch.*, 1979, *115*(1), pp. 1–19.

Drazen, A. The Optimal Rate of Inflation Revisited. *J. Monet. Econ.*, April 1979, *5*(2), pp. 231–48.

• **Duck, N. W. and Zis, G.** The Natural Rate Hypothesis, Policy Rules, and Fixed Exchange Rates. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 36–46.

• **Fama, E. F. and Schwert, G. W.** Inflation, Interest, and Relative Prices. *J. Bus.*, April 1979, *52*(2), pp. 183–209.

Feiwel, G. R. Price Reform and Inflation in Soviet-type Economies. *Nationaløkon. Tidsskr.*, 1978, *116*(3), pp. 326–41.

• **Ferguson, B. L. and Gupta, K. L.** On the Dynamics of Inflation and Unemployment in a Quantity Theory Framework. *Economica*, February 1979, *46*(181), pp. 51–59.

Firth, M. The Relationship between Stock Market Returns and Rates of Inflation. *J. Finance*, June 1979, *34*(3), pp. 743–49.

Freidenfelds, J. and Kennedy, M. Price Inflation and Long-Term Present-Worth Studies. *Eng. Econ.*, Spring 1979, *24*(3), pp. 143–60.

Frenkel, J. A. Further Evidence on Expectations and the Demand for Money during the German Hyperinflation. *J. Monet. Econ.*, January 1979, *5*(1), pp. 81–96.

• **Gahlen, B.** Preis- und Mengeneffekte in kurzund langfristiger Analyse. (The Effects of Price and Quantity in a Short- and Long-Term Analysis. *Kyklos*, 1979, *32*(1/2), pp. 162–76.

• **Galbis, V.** Inflation and Interest Rate Policies in Latin America, 1967–76. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 334–66.

• **Goodman, D. E. and McMahon, W. W.** Predicting Inflation Rates with Changing Oil Prices. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 35–46.

Haig, B. D. and Wood, M. P. Tracing Price Changes through Stages of Production: Australia, 1968 to 1977. *Rev. Income Wealth*, March 1979, *25*(1), pp. 1–30.

Hamada, R. S. Financial Theory and Taxation in an Inflationary World: Some Public Policy Issues. *J. Finance*, May 1979, *34*(2), pp. 347–69.

• **Holden, K. and Peel, D. A.** The Augmented Phillips Curve: Some Empirical Results for Italy, Japan and the U.K. *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 30–36.

Holmes, A. B. and Kwast, M. L. Interest Rates and Inflationary Expectations: Tests for Structural Change, 1952–1976. *J. Finance*, June 1979, *34*(3), pp. 733–41.

Horsman, A. A. Cripps on Wages and the Quantity Theory—A Monetarist Reply. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 164–74.

• **Howell, C.; Thomas, W. and Lamb, E.** First-Quarter Food and Fuel Prices Propel Inflation Rate to 5-Year High. *Mon. Lab. Rev.*, June 1979, *102*(6), pp. 3–9.

• **Jonung, L. and Wadensjö, E.** Wages and Prices in Sweden, 1912–1921: A Retrospective Test. *Scand. J. Econ.*, 1979, *81*(1), pp. 60–71.

Kahn, L. M. Union Strength and Wage Inflation. *Ind. Relat.*, Spring 1979, *18*(2), pp. 144–55.

Kanniainen, V. Inflaatio, Pääomakustannus ja investointikysyntä. (Inflation, Cost of Capital and Investment Demand. With English summary.) *Liiketaloudellinen Aikak.*, 1979, *28*(1), pp. 51–59.

Kanniainen, V. Rahoitusmarkkinoiden toiminnasta ja kehittämisestä Suomessa. (The Functioning and Development of the Financial Market in Finland. With English summary.) *Kansant. Aikak.*, 1979, *75*(1), pp. 51–62.

Katseli-Papaefstratiou, L. T. Nominal Tax Rates and the Effectiveness of Fiscal Policy. *Nat. Tax J.*, March 1979, *32*(1), pp. 77–82.

Kessler, D. and Strauss-Kahn, D. Épargne et inflation. (Savings and Inflation. With English summary.) *Consommation*, October–December 1978, *25*(4), pp. 3–22.

• **Krelle, W.** The Way out of Unemployment: Change of Group Behaviour. *Kyklos*, 1979, *32*(1/2), pp. 92–128.

Lawrence, R. Z. Within and between-Country Variances in Inflation Rates: Are They Similar? *J. Monet. Econ.*, January 1979, *5*(1), pp. 145–52.

Long, J. B., Jr. State-of-the-Art Studies in Financial Theory: Discussion. *J. Finance*, May 1979, *34*(2), pp. 385–86.

McFarlane, K. A. W. Tracking Inflation in Your Company. *Manage. Account.*, May 1979, *60*(11), pp. 42–45.

• **Moosa, S. A.** Why Stocks Have not been a Hedge against Inflation. *Nebr. J. Econ. Bus.*, Spring

200 Quantitative Economic Methods and Data

210 Econometric, Statistical, and Mathematical Methods and Models

211 Econometric and Statistical Methods and Models

lated Regressions Model: A Generalization. *J. Econometrics*, April 1979, *10*(1), pp. 109–13.

Buse, A. Least Squares with an Adjusted Dependent Variable. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 321–23.

Clauss, F. J. "Null-Wahrscheinlichkeit des allgemeinen Gesetzes"—ein Irrtum Poppers? Kritische Anmerkungen zur falsifikationslogischen Wissenschaftslehre. ("Zero-Probability of the General Law"—A Mistake of Popper? With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 177–241.

Cleveland, W. P. and Tiao, G. C. Modeling Seasonal Time Series. *Écon. Appl.*, 1979, *32*(1), pp. 107–29.

Corradi, C. and Stefanini, L. Using the Mixed Linear-Nonlinear Approach for the Solution of Nonlinear Estimation Problems Arising in Applied Econometrics. *Statistica*, January–March 1979, *39*(1), pp. 25–34.

Cronin, D. C. Function for Size Distribution of Incomes: A Further Comment. *Econometrica*, May 1979, *47*(3), pp. 773–74.

Dagum, C. A Mean Generating Function for the Assessment of Estimator Biases. *Écon. Appl.*, 1979, *32*(1), pp. 81–93.

• Dansby, R. E. and Willig, R. D. Industry Performance Gradient Indexes. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 249–60.

Davidson, L. S. Large Changes: Pitfalls in Econometric Practice. *J. Econ. Issues*, June 1979, *13*(2), pp. 329–45.

Drynan, R. G. A Note on the Use of Sample Estimates in Optimization Models. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 322–26.

Faleschini, L. Statistica scientifica e statistica operativa. (Scientific Statistics and Operative Statistics. With English summary.) *Statistica*, January–March 1979, *39*(1), pp. 3–12.

• Farebrother, R. W. Estimation with Aggregated Data. *J. Econometrics*, April 1979, *10*(1), pp. 43–55.

• Fisher, W. D. A Note on Aggregation and Disaggregation. *Econometrica*, May 1979, *47*(3), pp. 739–46.

Frost, P. A. Proxy Variables and Specification Bias. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 323–25.

• Gourieroux, C. and Monfort, A. On the Characterization of a Joint Probability Distribution by Conditional Distributions. *J. Econometrics*, April 1979, *10*(1), pp. 115–18.

Granger, C. W. J. Nearer-Normality and Some Econometric Models. *Econometrica*, May 1979, *47*(3), pp. 781–84.

• Guilkey, D. K. and Schmidt, P. Some Small Sample Properties of Estimators and Test Statistics in the Multivariate Logit Model. *J. Econometrics*, April 1979, *10*(1), pp. 33–42.

• Gupta, Y. P. and Maasoumi, E. Ommitted Variables, Variability of Estimated Parameters and the Appearance of Autocorrelated Disturbances. *J. Econometrics*, February 1979, *9*(3), pp. 379–85.

• Guth, H.; Kugler, P. and Zehnder, R. Zu einigen neuen Entwicklungen in der Schätzung von Time-Lag-Strukturen. (On Some New Developments in the Calculation of Time-Lag Structures.) *Kyklos*, 1979, *32*(1/2), pp. 365–79.

• Hendry, D. F. The Behaviour of Inconsistent Instrumental Variables Estimators in Dynamic Systems with Autocorrelated Errors. *J. Econometrics*, February 1979, *9*(3), pp. 295–314.

Holt, D. and Smith, T. M. F. Post Stratification. *J. Roy. Statist. Soc.*, Part 1, 1979, *142*, pp. 33–46.

• Klein, R. W. Optimal Instruments When the Disturbances are Small. *J. Econometrics*, February 1979, *9*(3), pp. 367–77.

Kristensen, K. En metode til kalibrering af diskriminantanalysens afskæringsværdi. (The Cut-off Point in Discriminant Analysis of Classification Problems. With English summary.) *Nationaløkon. Tidsskr.*, 1978, *116*(3), pp. 356–69.

Lancaster, T. Prediction from Binary Choice Models: A Note. *J. Econometrics*, February 1979, *9*(3), pp. 387–89.

Lee, B. S. A New Measurement of Income Inequality as an Economic and Social Index. *Amer. Econ.*, Spring 1979, *23*(1), pp. 49–52.

• Levy, H. and Markowtiz, H. M. Approximating Expected Utility by a Function of Mean and Variance. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 308–17.

Muttarini, L. L'effetto delle variazioni di calendario nell'indice della produzione industriale italiana. (With English summary.) *Rivista Statist. Appl.*, January–February–March 1979, *12*(1), pp. 37–53.

Nelson, C. R. Discussion of the Zellner [Causality and Econometrics] and Schwert [Tests of Causality: The Message in the Innovations] Papers. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 97–102.

• Nelson, H. L., Jr. and Granger, C. W. J. Experience with Using the Box-Cox Transformation when Forecasting Economic Time Series. *J. Econometrics*, April 1979, *10*(1), pp. 57–69.

• Phillips, P. C. B. The Sampling Distribution of Forecasts from a First-Order Autoregression. *J. Econometrics*, February 1979, *9*(3), pp. 241–61.

Pierce, D. A. Seasonal Adjustment of Daily Data with Special Reference to the US Money Supply.

212 Construction, Analysis and Use of Econometric Models

213 Mathematical Methods and Models

timization. *Matekon*, Fall 1978, *15*(1), pp. 30–57.

Fujimoto, T. Nonlinear Generalization of the Frobenius Theorem: A Symmetric Approach. *J. Math. Econ.*, March 1979, *6*(1), pp. 17–21.

Gay, A. A Note on Lemma 1 in Bergstrom's 'How to Discard "Free Disposability" at no Cost.' *J. Math. Econ.*, July 1979, *6*(2), pp. 215–16.

Hurwicz, L. and Richter, M. K. An Integrability Condition with Applications to Utility Theory and Thermodynamics. *J. Math. Econ.*, March 1979, *6*(1), pp. 7–14.

• **Hurwicz, L. and Richter, M. K.** Ville Axioms and Consumer Theory. *Econometrica*, May 1979, *47*(3), pp. 603–19.

Nermuth, M. Minimal Conditions for Upper-Hemicontinuity of the Choice Correspondence. *J. Econ. Theory*, December 1978, *19*(2), pp. 558–60.

• **Paris, Q.** Revenue and Cost Uncertainty, Generalized Mean-Variance, and the Linear Complementarity Problem. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 268–75.

Rashid, S. The Relationship between Measure-Theoretic and Non-Standard Exchange Economies. *J. Math. Econ.*, July 1979, *6*(2), pp. 195–202.

Sandberg, I. W. Correction to "A Note on Market Equilibrium with Fixed Supply" *J. Econ. Theory*, February 1979, *20*(1), pp. 124.

Schecter, S. On the Structure of the Equilibrium Manifold. *J. Math. Econ.*, March 1979, *6*(1), pp. 1–5.

Schmeidler, D. A Bibliographical Note on a Theorem of Hardy, Littlewood, and Polya. *J. Econ. Theory*, February 1979, *20*(1), pp. 125–28.

Shilony, Y. A Note on the Presentation and Solution of Infinite Games. *J. Math. Econ.*, March 1979, *6*(1), pp. 63–65.

Todd, M. J. A Note on Computing Equilibria in Economies with Activity Analysis Models of Production. *J. Math. Econ.*, July 1979, *6*(2), pp. 135–44.

Van Uyen, D. Agregácia modelu celočíselného programovania. (Integer Programming Models Aggregation. With English summary.) *Ekon.-Mat. Obzor*, 1979, *15*(1), pp. 44–61.

214 Computer Programs

Diaconescu, G.; Magda, M. and Ionescu, C. An Algorithm for Dynamic Determination of the Retrieval Thesaurus in a Statistical Data BASE. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 77–84.

Pescaru, V., et al. Development of Data Bank Management Systems with Facilities for Calculations on Tree-Like Information Structures. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 29–46.

220 Economic and Social Statistical Data and Analysis

Bashir, K. M. An Integrated System of Wages Statistics. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 371–84.

• **Brown, W. M.** Employment vs. Unemployment Data as Macro-Policy Guides. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 70–82.

Cangah, G. National Primary Socio-Economic Data Structures, IV: The Ivory Coast. *Int. Soc. Sci. J.*, 1979, *31*(1), pp. 141–61.

Greenfield, C. C. and Fell, H. A. The Estimation of Price Effects in a Social Accounting Matrix. *Rev. Income Wealth*, March 1979, *25*(1), pp. 65–81.

Mochmann, E. and Müller, P. J. Data Protection and Access to Social-Science Data. *Int. Soc. Sci. J.*, 1979, *31*(1), pp. 162–65.

Pescaru, V., et al. Development of Data Bank Management Systems with Facilities for Calculations on Tree-Like Information Structures. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 29–46.

• **Timmermann, M.** Zur Integration sozio-ökonomischer Gesamtrechungen. (On the Integration of Socio-Economic National Accounting Systems.) *Kyklos*, 1979, *32*(1/2), pp. 430–48.

221 National Income Accounting

Bach, C. L. U.S. International Transactions, Fourth Quarter and Year 1978. *Surv. Curr. Bus.*, March 1979, *59*(3), pp. 38–62.

Barth, J. and Bennett, J. The Relationship between FEBS and GNP Reconsidered. *Econ. Inquiry*, April 1979, *17*(2), pp. 293–96.

• **Blümle, G.** Wirtschaftliche Entwicklung und personelle Einkommensverteilung in Entwicklungsländern. (Economic Development and Personal Income Distribution in Developing Countries.) *Kyklos*, 1979, *32*(1/2), pp. 145–61.

Bretzfelder, R. and Friedenberg, H. State Differences in Nonfarm Personal Income Growth in the Current Business Cycle. *Surv. Curr. Bus.*, April 1979, *59*(4), pp. 23–24.

• **Canterbery, E. R.** A Vita Theory of the Personal Income Distribution. *Southern Econ. J.*, July 1979, *46*(1), pp. 12–48.

Cronin, D. C. Function for Size Distribution of Incomes: A Further Comment. *Econometrica*, May 1979, *47*(3), pp. 773–74.

Culus, M. and Konings, M. H. Evolution des effectifs et des revenus des chômeurs complets indemnisés de 1953 a 1976. (Evolution of the

Number and Income of the Unemployed in Belgium (1953–1976). With English summary.) *Cah. Écon. Bruxelles*, 1st Semester 1979, (81), pp. 125–62.

Dagum, C. A Measure of Inequality between Income Distributions. *Écon. Appl.*, 1978, *31*(3–4), pp. 401–13.

Dholakia, R. H. State Income Inequalities in India and Interstate Variations in Price Movements. *Artha-Vikas*, January–June 1978, *14*(1), pp. 26–40.

• **Dixon, R. J.** Accounting for Variations in the Wage-Share in Australian Manufacturing: 1969–1977. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 192–99.

Eldridge, D. P. Gross Product by Industry, 1978. *Surv. Curr. Bus.*, April 1979, *59*(4), pp. 10–22.

• **Erdös, P. and Molnár, F.** A Method for Estimating the Income, Consumption and Savings of Social Groups. *Acta Oecon.*, 1977, *19*(3–4), pp. 277–97.

Filipucci, C. Il valore aggiunto delle piccole imprese e il censimento'del 1981: un matrimonio che s'ha da fare. (Added Value of Small Firms and the 1981 Italian Census: A Necessary Pair. With English summary.) *Statistica*, January–March 1979, *39*(1), pp. 125–32.

• **Flakierski, H.** Economic Reform and Income Distribution in Hungary. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 15–32.

• **van Ginneken, W.** Socio-Economic Groups and Income Distribution in Mexico. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 331–42.

Gordon, R. J. A Comment on the Perloff and Wachter [A Production Function–Nonaccelerating Inflation Approach to Potential Output: Is Measured Potential Output Too High?] Paper. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 187–94.

Hill, T. P. Do-It-Yourself and GDP. *Rev. Income Wealth*, March 1979, *25*(1), pp. 31–39.

Holtsberg, C. P. Effects of a New Feeder Road on Employment and Income Distribution: A Case Study of Thailand. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 237–49.

Larson, D. A. and Wilford, W. T. The Quality of Life and Per Capita Income in the United States. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 111–19.

Lee, B. S. A New Measurement of Income Inequality as an Economic and Social Index. *Amer. Econ.*, Spring 1979, *23*(1), pp. 49–52.

Lisá, M. and Novotný, V. Determining the Time-Lag in the Production Effect of Investment in the Czechoslovak Economy. *Eastern Europ. Econ.*, Spring 1979, *17*(3), pp. 3–18.

• **Maddison, A.** Per Capita Output in the Long Run. *Kyklos*, 1979, *32*(1/2), pp. 412–29.

Martynov, V. Comparative Evaluation of Final Output of the USSR and USA. *Prob. Econ.*, February 1979, *21*(10), pp. 96–109.

Morgan, K. J. The Potential Impact of Changes in Income Distribution on Food Demand and Human Nutrition: Comment. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 380–81.

Parker, R. P. U.S. National Income and Product Accounts: Preliminary Revised Estimates, 1972. *Surv. Curr. Bus.*, April 1979, *59*(4), pp. 48–50.

Perloff, J. M. and Wachter, M. L. A Production Function–Nonaccelerating Inflation Approach to Potential Output: Is Measured Potential Output Too High? *J. Monet. Econ.*, Supplement 1979, *10*, pp. 113–63.

Perloff, J. M. and Wachter, M. L. [A Production Function–Nonaccelerating Inflation Approach to Potential Output: Is Measured Potential Output Too High?]: Reply. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 195–203.

Pinstrup-Andersen, P. The Potential Impact of Changes in Income Distribution on Food Demand and Human Nutrition: Reply. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 382–83.

Plosser, C. I. and Schwert, G. W. Potential GNP: Its Measurement and Significance: A Dissenting Opinion. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 179–86.

Ramakrishnan, M. K. and Rao, V. V. B. A Note on the Decomposition of the Gini Ratio. *Malayan Econ. Rev.*, October 1978, *23*(2), pp. 37–39.

Schwarz, L. D. Income Distribution and Social Structure in London in the Late Eighteenth Century. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 250–59.

Shaw, R. P. A Note on Shifts in Parity, Poverty, and Sources of Farm Family Income in North America. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 645–52.

• **Shorrocks, A.** Income Inequality and Income Mobility. *J. Econ. Theory*, December 1978, *19*(2), pp. 376–93.

Soltow, L. and May, D. L. The Distribution of Mormon Wealth and Income in 1857. *Exploration Econ. Hist.*, April 1979, *16*(2), pp. 151–62.

Stephens, J. K. and Grapentine, T. The Relationship between FEBS and GNP: Comment. *Econ. Inquiry*, April 1979, *17*(2), pp. 287–92.

Sundrum, R. M. Income Distribution, 1970–76. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 137–41.

Suominen, R. Empirical Results Concerning Vertical and Horizontal Redistribution in Finland.

Rev. Income Wealth, March 1979, *25*(1), pp. 83–103.

• **Takayama, N.** Poverty, Income Inequality, and Their Measures: Professor Sen's Axiomatic Approach Reconsidered. *Econometrica,* May 1979, *47*(3), pp. 747–59.

Thage, B. Det nye danske nationalregnskab. (The New Danish National Accounts. With English summary.) *Nationaløkon. Tidsskr.,* 1978, *116*(3), pp. 231–49.

Vitin, A. The Effectiveness of Nonproductive Capital Investments. *Prob. Econ.,* March 1979, *21*(11), pp. 58–76.

• **Winegarden, C. R.** Schooling and Income Distribution: Evidence from International Data. *Economica,* February 1979, *46*(181), pp. 83–87.

• **Wolff, E. N.** The Rate of Surplus Value, the Organic Composition, and the General Rate of Profit in the U.S. Economy, 1947–67. *Amer. Econ. Rev.,* June 1979, *69*(3), pp. 329–41.

Woodward, J. T. Plant and Equipment Expenditures, First and Second Quarters and Second Half of 1979. *Surv. Curr. Bus.,* March 1979, *59*(3), pp. 26–31.

• **Yeats, A. J.** On the Accuracy of Partner Country Trade Statistics. *Oxford Bull. Econ. Statist.,* November 1978, *40*(4), pp. 341–61.

Yitzhaki, S. Relative Deprivation and the Gini Coefficient. *Quart. J. Econ.,* May 1979, *93*(2), pp. 321–24.

222 Input-Output

• **Baumol, W. J.** On the Contributions of Herbert A. Simon to Economics. *Scand. J. Econ.,* 1979, *81*(1), pp. 74–82.

Cherif, M. and Guillaume, Y. Les énergies douces et la lutte contre le chômage en Belgique: un exemple d'application de la méthod input–output. (Renewable Energy Resources and Employment in Belgium: An Application of the Input–Output Method. With English summary.) *Cah. Écon. Bruxelles,* 1st Semester 1979, (81), pp. 3–17.

Degaillier-S'Jegers, R. Een input output benadering van de sektoriële Arbeidsproduktiviteit in België. (An Input–Output Approach of the Industrial Labor Productivity in Belgium. With English summary.) *Cah. Écon. Bruxelles,* 1st Semester 1979, (81), pp. 71–92.

• **Erdős, P. and Molnár, F.** A Method for Estimating the Income, Consumption and Savings of Social Groups. *Acta Oecon.,* 1977, *19*(3–4), pp. 277–97.

Haig, B. D. and Wood, M. P. Tracing Price Changes through Stages of Production: Australia, 1968 to 1977. *Rev. Income Wealth,* March 1979, *25*(1), pp. 1–30.

Hartfiel, D. J. Some Error Estimates in Matrix Economic Models. *J. Econ. Theory,* December 1978, *19*(2), pp. 551–54.

• **Johansen, L.** On the Theory of Dynamic Input-Output Models with Different Time Profiles of Capital Construction and Finite Life-Time of Capital Equipment. *J. Econ. Theory,* December 1978, *19*(2), pp. 513–33.

Kennedy, C. and Thirlwall, A. P. The Input-Output Formulation of the Foreign Trade Multiplier. *Australian Econ. Pap.,* June 1979, *18*(32), pp. 173–80.

• **Krengel, R.** Die Anfänge der Input-Output-Rechnung des DIW für die Bundesrepublik Deutschland. (The Beginnings of the Input-Output Calculation of the German Institute for Economic Research for the Federal Republic of Germany.) *Kyklos,* 1979, *32*(1/2), pp. 392–99.

Onicescu, O. and Botez, M. C. A Stochastic-Informational Approach to Input-Output Analysis. *Econ. Computat. Cybern. Stud. Res.,* 1978, *12*(3), pp. 19–27.

Oppenheimer, M. Time as a Scarce Resource in Economic Planning. *J. Econ. Bus.,* Spring/Summer 1979, *31*(3), pp. 218–21.

Ritz, P. M.; Roberts, E. P. and Young, P. C. Dollar-Value Tables for the 1972 Input–Output Study. *Surv. Curr. Bus.,* April 1979, *59*(4), pp. 51–72.

• **Round, J. I.** Compensating Feedback Effects in Interregional Input-Output Models. *J. Reg. Sci.,* May 1979, *19*(2), pp. 145–55.

Schluter, G. and Lee, G. K. Changes in the Presentation of the National I/O Tables. *Agr. Econ. Res.,* April 1979, *31*(2), pp. 40–43.

224 National Wealth and Balance Sheets

Mirer, T. W. The Wealth-Age Relation among the Aged. *Amer. Econ. Rev.,* June 1979, 69(3), pp. 435–43.

Musgrave, J. C. Durable Goods Owned by Consumers in the United States, 1925–77. *Surv. Curr. Bus.,* March 1979, *59*(3), pp. 17–25.

• **Pestieau, P. and Possen, U. M.** A Model of Wealth Distribution. *Econometrica,* May 1979, *47*(3), pp. 761–72.

Soltow, L. and May, D. L. The Distribution of Mormon Wealth and Income in 1857. *Exploration Econ. Hist.,* April 1979, *16*(2), pp. 151–62.

225 Social Indicators and Social Accounts

Daneke, G. A. and Priscoli, J. D. Social Assessment and Resource Policy: Lessons from Water Planning. *Natural Res. J.,* April 1979, *19*(2), pp. 359–75.

• **De Rooy, J.** Are There Decreasing Returns to Income in the United States? *Quart. Rev. Econ. Bus.,* Summer 1979, *19*(2), pp. 91–107.

Larson, D. A. and Wilford, W. T. The Quality of Life and Per Capita Income in the United States. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 111–19.

226 Productivity and Growth: Theory and Data

Bergson, A. Notes on the Production Function in Soviet Postwar Industrial Growth. *J. Compar. Econ.*, June 1979, *3*(2), pp. 116–26.
- Joskow, P. L. and Rozanski, G. A. The Effects of Learning by Doing on Nuclear Plant Operating Reliability. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 161–68.
- de Leeuw, F. Why Capacity Utilization Estimates Differ. *Surv. Curr. Bus.*, May 1979, *59*(5), pp. 45–56.
- Nyitrai, V. A Comparison of the Austrian and the Hungarian Industries. *Acta Oecon.*, 1977, *19*(3–4), pp. 361–77.
- Thirlwall, A. P. The Balance of Payments Constraint as an Explanation of International Growth Rate Differences. *Banca Naz. Lavoro Quart. Rev.*, March 1979, (128), pp. 45–53.

227 Prices

de Boer, S. and van Tuinen, H. K. Price Analysis and a System of Price Statistics. *Rev. Income Wealth*, March 1979, *25*(1), pp. 41–63.

Chinloy, P. Hedonic Price and Depreciation Indexes for Residential Housing Again. *J. Urban Econ.*, April 1979, *6*(2), pp. 272–73.

Cukierman, A. The Relationship between Relative Prices and the General Price Level: A Suggested Interpretation. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 444–47.

Dholakia, R. H. State Income Inequalities in India and Interstate Variations in Price Movements. *Artha-Vikas*, January–June 1978, *14*(1), pp. 26–40.
- Fama, E. F. and Schwert, G. W. Inflation, Interest, and Relative Prices. *J. Bus.*, April 1979, *52*(2), pp. 183–209.

Greenfield, C. C. and Fell, H. A. The Estimation of Price Effects in a Social Accounting Matrix. *Rev. Income Wealth*, March 1979, *25*(1), pp. 65–81.

Haig, B. D. and Wood, M. P. Tracing Price Changes through Stages of Production: Australia, 1968 to 1977. *Rev. Income Wealth*, March 1979, *25*(1), pp. 1–30.
- Howell, C.; Thomas, W. and Lamb, E. First-Quarter Food and Fuel Prices Propel Inflation Rate to 5-Year High. *Mon. Lab. Rev.*, June 1979, *102*(6), pp. 3–9.

Hwa, E. C. Price Determination in Several International Primary Commodity Markets: A Structural Analysis. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 157–88.
- Jonung, L. Knut Wicksell and Gustav Cassel on Secular Movements in Prices. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 165–81.
- König, H. Zur Bildung von Preiserwartungen: Ein multivariates log-lineares Wahrscheinlichkeitsmodell. (The Formation of Price Expectations: A Multivariate Log-Linear Probability Model.) *Kyklos*, 1979, *32*(1/2), pp. 380–91.

Lynch, J. P. The Revision of the Consumer Price Index. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 59–74.

Mead, W. J. An Economic Analysis of Crude Oil Price Behavior in the 1970s. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 212–28.
- Neftçi, S. N. Modeling the Price Side of Econometric Models: An Analysis of the Underlying Hypotheses. *J. Econometrics*, April 1979, *10*(1), pp. 71–84.

Palmquist, R. B. Hedonic Price and Depreciation Indexes for Residential Housing: A Comment. *J. Urban Econ.*, April 1979, *6*(2), pp. 267–71.

Severin, B. S. USSR: The All-Union and Moscow Collective Farm Market Price Indexes. *ACES Bull.*, Spring 1979, *21*(1), pp. 23–36.
- Sheifer, V. J. Cost-of-Living Adjustment: Keeping up with Inflation? *Mon. Lab. Rev.*, June 1979, *102*(6), pp. 14–17.
- YoungDay, D. J. and Fight, R. D. Natural Resource Policy: The Distributional Impact on Consumers of Changing Output Prices. *Land Econ.*, February 1979, *55*(1), pp. 11–27.

228 Regional statistics
- Weber, R. E. A Synthesis of Methods Proposed for Estimating Gross State Product. *J. Reg. Sci.*, May 1979, *19*(2), pp. 217–30.

300 Domestic Monetary and Fiscal Theory and Institutions

310 Domestic Monetary and Financial Theory and Institutions

Ederington, L. H. Aspects of the Production of Significant Financial Research. *J. Finance*, June 1979, *34*(3), pp. 777–86.

311 Domestic Monetary and Financial Theory and Policy

Abel, A., et al. Money Demand during Hyperinflation. *J. Monet. Econ.*, January 1979, *5*(1), pp. 97–104.

Afxentiou, P. C. Reflections on Monetarism. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 1–13.
- Aghevli, B. B. and Rodriguez, C. A. Trade,

Prices, and Output in Japan: A Simple Monetary Model. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 38–54.

Akerlof, G. A. Irving Fisher on His Head: The Consequences of Constant Threshold-Target Monitoring of Money Holdings. *Quart. J. Econ.*, May 1979, *93*(2), pp. 169–87.

Akhtar, M. A.; Putnam, B. H. and Wilford, D. S. Fiscal Constraints, Domestic Credit, and International Reserve Flows in the United Kingdom, 1952–71: A Note. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 202–08.

Amihud, Y. A Possible Error in the Expectations Theory: A Note. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 243–45.

Anderson, P. A. Rational Expectations Forecasts from Nonrational Models. *J. Monet. Econ.*, January 1979, *5*(1), pp. 67–80.

Angelopoulos, A. The Investment Crisis and the Approach of the Post-Keynesian Era. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 131–39.

• **Argy, V. and Salop, J.** Price and Output Effects of Monetary and Fiscal Policy under Flexible Exchange Rates. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 224–56.

Atesoglu, H. S. Simple Keynesian and Monetarist Models: Evidence from Postwar Japan. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 304–06.

Auernheimer, L. Adaptive-Regressive Expectations and the Price Level: A Reformulation. *J. Monet. Econ.*, January 1979, *5*(1), pp. 123–32.

Benninga, S. General Equilibrium with Financial Markets: Existence, Uniqueness, and Implications for Corporate Finance. *J. Finance*, May 1979, *34*(2), pp. 325–39.

Bhattacharya, S. Financial Markets and Business Finance: Discussion. *J. Finance*, May 1979, *34*(2), pp. 342–45.

• **Bhattacharya, S.** Welfare and Savings Effects of Indexation. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 192–201.

Black, H.; Schulze, D. L. and Fellows, J. A. Velocity in West Germany. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 14–26.

Bordo, M. D. and Schwartz, A. J. Clark Warburton: Pioneer Monetarist. *J. Monet. Econ.*, January 1979, *5*(1), pp. 43–65.

• **Borner, S.** Who Has the Right Policy Perspective, the OECD or Its Monetarist Critics? *Kyklos*, 1979, *32*(1/2), pp. 285–306.

Boyer, R. S. Sterilization and the Monetary Approach to Balance of Payments Analysis. *J. Monet. Econ.*, April 1979, *5*(2), pp. 295–300.

Bronfenbrenner, M. On Dumping Gold. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 352–59.

• **Bryant, J. and Wallace, N.** The Inefficiency of Interest-bearing National Debt. *J. Polit. Econ.*, April 1979, *87*(2), pp. 365–81.

Butkiewicz, J. L. Outside Wealth, the Demand for Money and the Crowding Out Effect. *J. Monet. Econ.*, April 1979, *5*(2), pp. 249–58.

Büttler, H.-J., et al. A Multiplier Model for Controlling the Money Stock. *J. Monet. Econ.*, July 1979, *5*(3), pp. 327–41.

• **Calvo, G. A.** On the Indeterminacy of Interest Rates and Wages with Perfect Foresight. *J. Econ. Theory*, December 1978, *19*(2), pp. 321–37.

• **Cameron, N.** The Stability of Canadian Demand for Money Functions, 1954–75. *Can. J. Econ.*, May 1979, *12*(2), pp. 258–81.

Capriglione, F. Unitarietà della disciplina giurdica del fenomeno moneta-credito. (Unitary Nature of the Juridical Regulation of the Money-Credit Phenomenon. With English summary.) *Bancaria*, February 1979, *35*(2), pp. 111–29.

• **Cass, D.; Okuno, M. and Zilcha, I.** The Role of Money in Supporting the Pareto Optimality of Competitive Equilibrium in Consumption-Loan Type Models. *J. Econ. Theory*, February 1979, *20*(1), pp. 41–80.

Christ, C. F. The Economic Policy Proposals of the Joint Economic Committee of the 94th and 95th U.S. Congresses, 1975 through September of 1978. *J. Monet. Econ.*, July 1979, *5*(3), pp. 375–95.

Clayman, C. F. and Severn, A. K. The Effect of Random Disturbances in Float on the Federal Funds Rate. *J. Bank Res.*, Spring 1979, *10*(1), pp. 58–60.

Coldwell, P. E. Statement to Congress. *Fed. Res. Bull.*, April 1979, *65*(4), pp. 312–15.

Connolly, M. and Dantas da Silveira, J. Exchange Market Pressure in Postwar Brazil: An Application of the Girton-Roper Monetary Model. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 448–54.

Cripps, F. Wages and Unemployment—A Non-Monetarist Rejoinder. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 175–77.

Cukierman, A. Rational Expectations and the Role of Monetary Policy: A Generalization. *J. Monet. Econ.*, April 1979, *5*(2), pp. 213–29.

Curran, C. and Johnston, J. The Antebellum Money Market and the Economic Impact of the Bank War: A Comment. *J. Econ. Hist.*, June 1979, *39*(2), pp. 461–66.

• **Davidson, P.** Is Monetary Collapse in the Eighties in the Cards? *Nebr. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 15–24.

Deschamps, R. Keynesian Economic Policies and Underemployment. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 81–95.

• **Dewald, W. G. and Marchon, M. N.** A Common

Years: Discussion. *J. Finance*, May 1979, *34*(2), pp. 501–04.

McCallum, B. T. On the Observational Inequivalence of Classical and Keynesian Models. *J. Polit. Econ.*, April 1979, *87*(2), pp. 395–402.

• Mitchell, D. W. Explicit and Implicit Demand Deposit Interest: Substitutes or Complements from the Bank's Point of View? *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 182–91.

• Morgan, D. R. Fiscal Policy in Oil Exporting Countries, 1972–78. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 55–86.

Mudd, D. R. Did Discount Rate Changes Affect the Foreign Exchange Value of the Dollar during 1978? *Fed. Res. Bank St. Louis Rev.*, April 1979, *61*(4), pp. 20–26.

• Müller, H. and Schweizer, U. Temporary Equilibrium in a Money Economy. *J. Econ. Theory*, December 1978, *19*(2), pp. 267–86.

Nelson, C. R. Granger Causality and the Natural Rate Hypothesis. *J. Polit. Econ.*, April 1979, *87*(2), pp. 390–94.

Nguyên, A. N. Monetary Policy, Inflation, and Devaluation: A Case Study of the Philippines: A Note. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 235–42.

Olmstead, A. L. The Diffusion of the Reaper: One More Time! *J. Econ. Hist.*, June 1979, *39*(2), pp. 475–76.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, April 1979, *65*(4), pp. 308–12.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, April 1979, *65*(4), pp. 315–19.

Pascallon, P. Stagflation and Monetary Policy. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 31–51.

Perkins, J. O. N. Aspects of Macroeconomic Policy. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 90–94.

• Phillips, L. and Pippenger, J. The Term Structure of Interest Rates in the MIT-PENN-SSRC Model: Reality or Illusion? *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 151–64.

Pierce, D. A. Seasonal Adjustment of Daily Data with Special Reference to the US Money Supply. *Écon. Appl.*, 1979, *32*(1), pp. 49–72.

Pierce, J. L. The Political Economy of Arthur Burns. *J. Finance*, May 1979, *34*(2), pp. 485–96.

Poole, W. Burnsian Monetary Policy: Eight Years of Progress? *J. Finance*, May 1979, *34*(2), pp. 473–84.

• Ramser, H. J. Keynessche Inflations- und Kaldorsche Verteilungstheorie. (Keynes' Inflation Model and Kaldor's Distribution Theory.) *Kyklos*, 1979, *32*(1/2), pp. 205–18.

Ratti, R. A. Stochastic Reserve Losses and Bank Credit Expansion. *J. Monet. Econ.*, April 1979, *5*(2), pp. 283–94.

• Riese, H. Theoretische Grundlagen stabilitätspolitischer Kontroversen. (The Theoretical Foundations of Stabilization Controversies.) *Kyklos*, 1979, *32*(1/2), pp. 219–35.

Roberts, C. C. Economic Theory and Policy Making in West Germany: The Rôle of the Council of Economic Experts. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 83–89.

Roos, L. K. Monetary Targets—Their Contribution to Policy Formation. *Fed. Res. Bank St. Louis Rev.*, May 1979, *61*(5), pp. 12–15.

Rose, J. T. Federal Reserve System Attrition since 1960. *J. Bank Res.*, Spring 1979, *10*(1), pp. 8–27.

Rudolph, B. Zinsänderungsrisiken und die Strategie der durchschnittlichen Selbstliquidationsperiode. (The Risks of Interest-Rate Changes and the Strategy of the Self-Liquidation Period. With English summary.) *Kredit Kapital*, 1979, *12*(2), pp. 181–206.

• Ruffin, R. J. Tariffs, the Balance of Payments, and the Demand for Money. *J. Int. Econ.*, May 1979, *9*(2), pp. 287–302.

Santomero, A. M. The Role of Transaction Costs and Rates of Return on the Demand Deposit Decision. *J. Monet. Econ.*, July 1979, *5*(3), pp. 343–64.

Sargent, T. J. A Note on Maximum Likelihood Estimation of the Rational Expectations Model of the Term Structure. *J. Monet. Econ.*, January 1979, *5*(1), pp. 133–43.

Savage, D. T. and Humphrey, D. B. Branching Laws and Banking Offices: A Comment. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 227–30.

• Scarfe, B. L. Optimal Monetary Policy with a Trade-Off Function. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 20–35.

Sharma, B. M. Interest Rate Behaviour in the Unorganised Sector. *Artha-Vikas*, January–June 1978, *14*(1), pp. 13–25.

• Smith, P. Keynes' Finance Motive: Some Empirical Evidence. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 55–68.

Tanner, J. E. Are the Lags in the Effects of Monetary Policy Variable? *J. Monet. Econ.*, January 1979, *5*(1), pp. 105–21.

• Tanzi, V. Income Taxes and the Demand for Money: A Quantitative Analysis. *Banca Naz. Lavoro Quart. Rev.*, March 1979, (128), pp. 55–72.

• Van Order, R. On the Monetarist Money Income Model. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 131–35.

Venkiteswaran, S. Central Banking in Developing Countries. *Econ. Aff.*, September–October 1978, *23*(9–10), pp. 365–69.

Wallich, H. C. Statement to Congress. *Fed. Res. Bull.*, May 1979, *65*(5), pp. 369–99.

• von Weizsäcker, C. C. Das eherne Zinsgesetz. (The Iron Law of Interest.) *Kyklos*, 1979, *32*(1/2), pp. 270–82.

Wenninger, J. and Sivesind, C. M. Defining Money for a Changing Financial System. *Fed. Res. Bank New York Quart. Rev.*, Spring 1979, *4*(1), pp. 1–8.

• Wilson, C. A. Anticipated Shocks and Exchange Rate Dynamics. *J. Polit. Econ.*, June 1979, *87*(3), pp. 639–47.

Wong, C. and Pettersen, Ø. Financial Programming in the Framework of Optimal Con—trol. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 20–37.

Yousefi, M. Monetary Rules in Monetary Policy. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 247–56.

• Zijlstra, J. Monetary Theory and Monetary Policy: A Central Banker's View. *De Economist*, 1979, *127*(1), pp. 3–20.

Zwick, B. Interest Rate Variability, Government Securities Dealers, and the Stability of Financial Markets. *J. Monet. Econ.*, July 1979, *5*(3), pp. 365–72.

312 Commercial Banking

Ali-Melkkilä, M. Suomalaisen pankkikilpailun piirteitä. (Aspects of Interbank Competition in Finland. With English summary.) *Kansant. Aikak.*, 1979, *75*(2), pp. 126–39.

Anderson, C. R. Bank Forecasting: A Developmental-Group Approach. *J. Bank Res.*, Spring 1979, *10*(1), pp. 36–44.

Anderson, P. S. Costs and Profitability of Bank Functions. *New Eng. Econ. Rev.*, March/April 1979, pp. 43–61.

Ang, J. S.; Chua, J. H. and Bowling, C. H. The Profiles of Late-Paying Consumer Loan Borrowers: An Exploratory Study: A Note. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 222–26.

Datar, M. K. Banking and Rural Development. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 51–60.

Dennis, R. J. Portfolio Behaviour of South African Commercial Banks, 1965–1975. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 27–37.

Guidi, G. Research and Management Training: Indications and Stimuli in the Present Economic Situation of Banks. *Rev. Econ. Cond. Italy*, September–November 1978, *32*(5–6), pp. 307–15.

Guttentag, J. M. and Thomas, K. H. Branch Banking and Bank Structure: Some Evidence from Alabama. *J. Bank Res.*, Spring 1979, *10*(1), pp. 45–53.

Hardy, C. S. Commercial Bank Lending to Developing Countries: Supply Constraints. *World Devel.*, February 1979, *7*(2), pp. 189–97.

Heinevetter, B. Liquidity Creation in the Euromarkets: A Comment. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 231–34.

Hoffman, A. C. Ownership and Control of American Corporations: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 457–60.

Karna, A. Bank Holding Company Profitability: Nonbanking Subsidiaries and Financial Leverage. *J. Bank Res.*, Spring 1979, *10*(1), pp. 28–35.

• Koskela, E. On Disequilibrium Effects of Interest Rate Controls in a Monopolistic Banking System. *Scand. J. Econ.*, 1979, *81*(1), pp. 1–17.

Kotz, D. M. The Significance of Bank Control over Large Corporations. *J. Econ. Issues*, June 1979, *13*(2), pp. 407–26.

Lefever, D. M. Survey of Time and Savings Deposits at Commercial Banks, January 1979. *Fed. Res. Bull.*, May 1979, *65*(5), pp. 387–92.

Leigh-Pemberton, R. Banks, Building Societies and Personal Savings. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 2–10.

Leonard, W. N. Ownership and Control of American Corporations: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 461–64.

Lovett, W. A. A Problem of Imagination: National Policy toward Multibank Integration. *J. Econ. Issues*, June 1979, *13*(2), pp. 427–55.

Marzano, A. L'interdipendenza tra banche e industrie nell'attuale crisi economica. (Interdependence between Banks and Industries in the Present Economic Crisis. With English summary.) *Bancaria*, January 1979, *35*(1), pp. 27–32.

McKenzie, J. A. Direct Earnings and Induced Deposit Effects of Variable-Rate Mortgages. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 202–07.

Mehrotra, H. C. and Kulshrestha, D. K. Development of Banks and Banking Habits in India. *Econ. Aff.*, September–October 1978, *23*(9–10), pp. 337–44.

Melnik, A. Demand Deposit Variability in Banks: A Time Series Analysis. *J. Bank Res.*, Summer 1979, *10*(2), pp. 97–101.

• Mitchell, D. W. Explicit and Implicit Demand Deposit Interest: Substitutes or Complements from the Bank's Point of View? *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 182–91.

Morris, F. E. The Cost of Price Control in Banking. *New Eng. Econ. Rev.*, May/June 1979, pp. 49–54.

Moskowitz, W. E. Global Asset and Liability Management at Commercial Banks. *Fed. Res.*

Bank New York Quart. Rev., Spring 1979, *4*(1), pp. 42–48.

Murphy, N. B. Disclosure of the Problem Bank Lists: A Test of the Impact. *J. Bank Res.*, Summer 1979, *10*(2), pp. 88–96.

Olsen, L. M. and Lord, J. D. Market Area Characteristics and Branch Bank Performance. *J. Bank Res.*, Summer 1979, *10*(2), pp. 102–10.

Parrillo, F. The Cooperative Banks and Their Role in the Italian Economy. *Rev. Econ. Cond. Italy*, September–November 1978, *32*(5–6), pp. 317–30.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, April 1979, *65*(4), pp. 308–12.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, June 1979, *65*(6), pp. 463–67.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, June 1979, *65*(6), pp. 460–63.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, May 1979, *65*(5), pp. 403–05.

Partee, J. C. Statement to Congress. *Fed. Res. Bull.*, April 1979, *65*(4), pp. 315–19.

Ratti, R. A. Stochastic Reserve Losses and Bank Credit Expansion. *J. Monet. Econ.*, April 1979, *5*(2), pp. 283–94.

Reddy, G. A. and Dakshinamurthy, D. Commercial Banking and Rural Development in India. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 40–50.

Rhoades, S. A. Aggregate Concentration: An Emerging Issue in Bank Merger Policy. *Antitrust Bull.*, Spring 1979, *24*(1), pp. 1–16.

Rose, J. T. Federal Reserve System Attrition since 1960. *J. Bank Res.*, Spring 1979, *10*(1), pp. 8–27.

Rudolph, B. Zinsänderungsrisiken und die Strategie der durchschnittlichen Selbstliquidationsperiode. (The Risks of Interest-Rate Changes and the Strategy of the Self-Liquidation Period. With English summary.) *Kredit Kapital*, 1979, *12*(2), pp. 181–206.

Savage, D. T. and Humphrey, D. B. Branching Laws and Banking Offices: A Comment. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 227–30.

Sharma, R. D. Bank Credit and Agricultural Transformation in a Backward Region. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 61–69.

Shin, T. S. and Lynge, M. J., Jr. Rural Banking Markets in Illinois: An Empirical Test. *J. Bank Res.*, Summer 1979, *10*(2), pp. 124–27.

Short, B. K. A Review of Bill C-57, the Proposed New Bank Act. *Can. Public Policy*, Spring 1979, *5*(2), pp. 273–80.

Teeters, N. H. Statement to Congress. *Fed. Res. Bull.*, May 1979, *65*(5), pp. 399–403.

Wallich, H. C. Statement to Congress. *Fed. Res. Bull.*, May 1979, *65*(5), pp. 369–99.

313 Financial Markets

Adhvaryu, J. H. Financial Intermediation and Rural Development. *Indian Econ. J.*, January–March 1979, *26*(3), pp. 63–88.

Arnott, R. D. Relative Strength Revisited. *J. Portfol. Manage.*, Spring 1979, *5*(3), pp. 19–23.

Baker, D. A. Investment Performance and the Range of Choice. *J. Portfol. Manage.*, Spring 1979, *5*(3), pp. 13–18.

Ball, R., et al. Dividends and the Value of the Firm: Evidence from the Australian Equity Market. *Australian J. Manage.*, April 1979, *4*(1), pp. 13–26.

Barry, C. B. and Radcliffe, R. C. Bayesian Modeling of Alternative Specifications in Portfolio Analysis. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 149–59.

Ben-Zion, U. A Joint Product Approach to Capital Market Equilibrium. *Amer. Econ.*, Spring 1979, *23*(1), pp. 44–48.

Benninga, S. Capital Market Theory: Discussion. *J. Finance.* May 1979, *34*(2), pp. 413–14.

Berner, T. The Effect of Petroleum-Related News Shocks on Stock Prices. *Amer. Econ.*, Spring 1979, *23*(1), pp. 65–73.

Bhattacharya, K. Financial Intermediation and Rural Development: Role of Co-operative Credit in Agricultural Development. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 11–24.

• **Bhattacharya, S.** Welfare and Savings Effects of Indexation. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 192–201.

Bhole, L. M. Financial Structure for Rural Development: In Retrospect and Future Prospective. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 1–10.

Bidwell, C. M., III. A Test of Market Efficiency: SUE/PE. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 53–58.

Bierwag, G. O. and Khang, C. An Immunization Strategy Is a Minimax Strategy. *J. Finance*, May 1979, *34*(2), pp. 389–99.

Bildersee, J. S. Bid-Ask Price Spreads in the Agency Bond Market: A Note. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 209–13.

• **Bowman, R. G.** The Theoretical Relationship between Systematic Risk and Financial (Accounting) Variables. *J. Finance*, June 1979, *34*(3), pp. 617–30.

Buser, S. A. Multiperiod Financial Models: Discussion. *J. Finance*, May 1979, *34*(2), pp. 529–31.

Cantoni, R. Le Borse estere nel 1978. (Foreign

ing, May 1979, *11*(2), pp. 231–34.

Jacquillat, B. and Roll, R. French Index Linked Bonds for U.S. Investors? *J. Portfol. Manage.*, Spring 1979, *5*(3), pp. 24–30.

Joehnk, M. D. and Kidwell, D. S. Comparative Costs of Competitive and Negotiated Underwritings in the State and Local Bond Market. *J. Finance*, June 1979, *34*(3), pp. 725–31.

Kanniainen, V. Rahoitusmarkkinoiden toiminnasta ja kehittämisestä Suomessa. (The Functioning and Development of the Financial Market in Finland. With English summary.) *Kansant. Aikak.*, 1979, *75*(1), pp. 51–62.

• **Kaplan, R. S. and Urwitz, G.** Statistical Models of Bond Ratings: A Methodological Inquiry. *J. Bus.*, April 1979, *52*(2), pp. 231–61.

Kidwell, D. S. and Trzcinka, C. A. The Risk Structure of Interest Rates and the Penn-Central Crisis. *J. Finance*, June 1979, *34*(3), pp. 751–60.

Kim, E. H.; Lewellen, W. G. and McConnell, J. J. Financial Leverage Clienteles: Theory and Evidence. *J. Finan. Econ.*, March 1979, *7*(1), pp. 83–109.

Klotz, B. P. Portfolio Theory with Variable Risk. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 296–301.

Kon, S. J. and Lau, W. P. Specification Tests for Portfolio Regression Parameter Stationarity and the Implications for Empirical Research. *J. Finance*, May 1979, *34*(2), pp. 451–65.

• **Kon, S. J. and Jen, F. C.** The Investment Performance of Mutual Funds: An Empirical Investigation of Timing, Selectivity, and Market Efficiency. *J. Bus.*, April 1979, *52*(2), pp. 263–89.

Kopcke, R. Are Stocks a Bargain? *New Eng. Econ. Rev.*, May/June 1979, pp. 5–24.

Laber, G. How do Call Provisions Influence Bond Yields? A Comment. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 70–71.

Laber, G. The Effect of Bond Refunding on Shareholder Wealth: Comment. *J. Finance*, June 1979, *34*(3), pp. 795–99.

Lane, M. Fixed-Income Managers Must Time the Market. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 36–40.

Langetieg, T. C. An Application of a Three-Factor Performance Index to Measure Stockholder Gains from Merger. *J. Finan. Econ.*, December 1978, *6*(4), pp. 365–83.

Latané, H. A. and Jones, C. P. Standardized Unexpected Earnings—1971–77. *J. Finance*, June 1979, *34*(3), pp. 717–24.

Leibowitz, M. L. Goal Oriented Bond Portfolio Management. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 13–18.

Lev, B. The Impact of Accounting Regulation on the Stock Market: The Case of Oil and Gas Companies. *Accounting Rev.*, July 1979, *54*(3), pp. 485–503.

Livingston, M. The Effect of Bond Refunding on Shareholder Wealth: Comment. *J. Finance*, June 1979, *34*(3), pp. 801–04.

Lovins, W. G.; Johnson, K. H. and Shannon, D. S. Effects of Differential Tax Rates on Realized Returns from Portfolios Formed via Markowitz Allocation. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 208–12.

Malkiel, B. G. The Capital Formation Problem in the United States. *J. Finance*, May 1979, *34*(2), pp. 291–306.

• **Mayers, D. and Rice, E. M.** Measuring Portfolio Performance and the Empirical Content of Asset Pricing Models. *J. Finan. Econ.*, March 1979, *7*(1), pp. 3–28.

McCormick, F. Covered Interest Arbitrage: Unexploited Profits? Comment. *J. Polit. Econ.*, April 1979, *87*(2), pp. 411–17.

Meehan, J. P. and Hayes, E. M. Hidden Dangers in Modern Portfolio Theory. *J. Portfol. Manage.*, Spring 1979, *5*(3), pp. 48–51.

• **Moosa, S. A.** Why Stocks Have not been a Hedge against Inflation. *Nebr. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 45–61.

Morgan, I. G. Market Proxies and the Conditional Prediction of Returns. *J. Finan. Econ.*, December 1978, *6*(4), pp. 385–98.

Mukherjee, S. A Few Thoughts on Financial Intermediation and Rural Development in India. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 25–39.

Osteryoung, J. S. and Blevins, D. R. A New Approach to Ratings on State GO's. *J. Portfol. Manage.*, Spring 1979, *5*(3), pp. 69–74.

Paci, S. L'intermediazione finanziaria delle imprese di assicurazione—I. (Financial Intermediation by Insurance Companies—I. With English summary.) *Bancaria*, February 1979, *35*(2), pp. 130–38.

Pettit, R. R. Empirical Research on Capital Markets: Discussion. *J. Finance*, May 1979, *34*(2), pp. 470–72.

• **Praetz, P. D.** Testing for a Flat Spectrum on Efficient Market Price Data. *J. Finance*, June 1979, *34*(3), pp. 645–58.

Prasad, K. Financial Intermediaries and Rural Development. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 287–304.

Pratten, C. Building Societies versus Equities. *Lloyds Bank Rev.*, April 1979, (132), pp. 38–48.

Rainbow, K. A. Skewness and Data Errors: An Australian Replication. *Australian J. Manage.*, April 1979, *4*(1), pp. 79–83.

Richards, R. M. and Martin, J. D. Revisions in

Bank St. Louis Rev., April 1979, *61*(4), pp. 10–19.

McKenzie, J. A. Direct Earnings and Induced Deposit Effects of Variable-Rate Mortgages. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 202–07.

Sealey, C. W., Jr. Credit Rationing in the Commercial Loan Market: Estimates of a Structural Model under Conditions of Disequilibrium. *J. Finance*, June 1979, *34*(3), pp. 689–702.

Teeters, N. H. Statement to Congress. *Fed. Res. Bull.*, June 1979, *65*(6), pp. 467–70.

Thygerson, K. J. Hedging forward Mortgage Loan Commitments: The Option of Futures and a Future for Options. *Amer. Real Estate Urban Econ. Assoc. J.*, Winter 1978, *6*(4), pp. 357–69.

320 Fiscal Theory and Policy; Public Finance

de Leeuw, F. A Comment on the Meiselman and Roberts [The Political Economy of the Congressional Budget Office] Paper. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 335–47.

Lehman, E. W. and Waters, A. M. Control in Policy Research Institutes: Some Correlates. *Policy Anal.*, Spring 1979, *5*(2), pp. 201–21.

Meiselman, D. I. and Roberts, P. C. The Political Economy of the Congressional Budget Office. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 283–333.

Minguet, A. Reform of Public Finance or Abandonment of Budgetary Policies? The Case of Belgium. *Ann. Pub. Co-op. Econ.*, January–March 1979, *50*(1), pp. 53–79.

Phaup, M. The Relationship between Economics and Politics: A Response to Meiselman and Roberts. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 349–54.

Plasschaert, S. Beschouwingen nopens de economische en fiscale aspecten van het federaliseringsproces. (Comments on the Economic and Fiscal Aspects of Federalism in Belgium. With English summary.) *Econ. Soc. Tijdschr.*, June 1979, *33*(3), pp. 277–96.

Rivlin, A. M. A Comment on the Meiselman and Roberts [The Political Economy of the Congressional Budget Office] Paper. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 355–62.

321 Fiscal Theory and Policy

• Akin, J. S. Estimates of State Resource Constraints Derived from a Specific Utility Function: An Alternative Measure of Fiscal Capacity. *Nat. Tax J.*, March 1979, *32*(1), pp. 61–71.

• Argy, V. and Salop, J. Price and Output Effects of Monetary and Fiscal Policy under Flexible Exchange Rates. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 224–56.

Argy, V. Some Notes on Fiscal Policy and Crowding Out. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 62–68.

• Barnett, W. A. The Joint Allocation of Leisure and Goods Expenditure. *Econometrica*, May 1979, *47*(3), pp. 539–63.

Barth, J. and Bennett, J. The Relationship between FEBS and GNP Reconsidered. *Econ. Inquiry*, April 1979, *17*(2), pp. 293–96.

Bharadwaj, R. and Nimbur, B., N. The Theory of Tax Effort and Tax Ratio Analysis: A Modified Roy Bahl Model. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 40–45.

Borkar, V. V. The Theory of Taxation—From Neutrality to Optimality. *Indian Econ. J.*, January–March 1979, *26*(3), pp. 1–12.

• Borner, S. Who Has the Right Policy Perspective, the OECD or Its Monetarist Critics? *Kyklos*, 1979, *32*(1/2), pp. 285–306.

Brueckner, J. K. Property Values, Local Public Expenditure and Economic Efficiency. *J. Public Econ.*, April 1979, *11*(2), pp. 223–45.

Butkiewicz, J. L. Outside Wealth, the Demand for Money and the Crowding Out Effect. *J. Monet. Econ.*, April 1979, *5*(2), pp. 249–58.

• Clotfelter, C. T. Equity, Efficiency, and the Tax Treatment of In-Kind Compensation. *Nat. Tax J.*, March 1979, *32*(1), pp. 51–60.

Colander, D. A Note on Optimal Income Taxation. *Amer. Econ.*, Spring 1979, *23*(1), pp. 59–64.

• Creedy, J. Negative Income Taxes and Income Redistribution. *Oxford Bull. Econ. Statist.*, November 1978, *40*(4), pp. 363–69.

Davidson, P. and Weintraub, S. Notes on Current Issues. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 136–37.

• Dixit, A. Price Changes and Optimum Taxation in a Many-Consumer Economy. *J. Public Econ.*, April 1979, *11*(2), pp. 143–57.

Elton, E. J. and Gruber, M. J. Taxes and Portfolio Composition. *J. Finan. Econ.*, December 1978, *6*(4), pp. 399–410.

Gambale, S. The Crisis in Public Finance in Italy. *Banca Naz. Lavoro Quart. Rev.*, March 1979, (128), pp. 73–90.

Gandhi, D. K. and Saunders, A. Optimal Tax Structures and Risk Aversion. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 286–91.

• Green, J. and Laffont, J.-J. Satisfactory Mechanisms for Environments with Consumption Lower Bounds. *J. Econ. Theory*, December 1978, *19*(2), pp. 359–75.

• Guesnerie, R. and Laffont, J.-J. Taxing Price Makers. *J. Econ. Theory*, December 1978, *19*(2), pp. 423–55.

Guha, C. K. Disparity Tax in a Mixed Economy. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 1–7.

Gupta, V. Some Aspects of Substituting an Expenditure Tax for Income Tax. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 46–63.

• Harris, R. G. and MacKinnon, J. G. Computing Optimal Tax Equilibria. *J. Public Econ.*, April 1979, *11*(2), pp. 197–212.

Hjerppe, R. *Henkilökohtainen kulutusvero—tulevaisuuden vaihtoehto?* (Expenditure Tax—An Alternative in the Future. With English summary.) *Kansant. Aikak.*, 1978, *74*(4), pp. 371–85.

Johnson, R. N. Oral Auction versus Sealed Bids: An Empirical Investigation. *Natural Res. J.*, April 1979, *19*(2), pp. 315–35.

Katseli-Papaefstratiou, L. T. Nominal Tax Rates and the Effectiveness of Fiscal Policy. *Nat. Tax J.*, March 1979, *32*(1), pp. 77–82.

Kennett, D. The Distribution of Unpriced Public Goods: A Framework with Some Empirical Results for Police Services. *Amer. Econ.*, Spring 1979, *23*(1), pp. 22–27.

• Knoester, A. On Monetary and Fiscal Policy in an Open Economy. *De Economist*, 1979, *127*(1), pp. 105–42.

Lenk, R. Eine Kasuistik von Budgetkonzepten. (A Taxonomy of Budget Concepts. With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 75–123.

• Manning, R. and McMillan, J. Public Intermediate Goods, Production Possibilities, and International Trade. *Can. J. Econ.*, May 1979, *12*(2), pp. 243–57.

Mayshar, J. Should Government Subsidize Risky Private Projects? Reply. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 462–64.

McCallum, B. T. and Whitaker, J. K. The Effectiveness of Fiscal Feedback Rules and Automatic Stabilizers under Rational Expectations. *J. Monet. Econ.*, April 1979, *5*(2), pp. 171–86.

• Miller, M. H. and Scholes, M. S. Dividends and Taxes. *J. Finan. Econ.*, December 1978, *6*(4), pp. 333–64.

• Morgan, D. R. Fiscal Policy in Oil Exporting Countries, 1972–78. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 55–86.

• Neumark, F. Wandlungen in der Beurteilung eingebauter Steuerflexibilität. (Changes in the Appraisal of Built-in Tax Flexibility.) *Kyklos*, 1979, *32*(1/2), pp. 177–204.

O'Dowd, M. C. The Problem of "Government Failure" in Mixed Economies. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 360–70.

Paavela, P. Finanssipolitiikan linjat. (The Targets of Fiscal Policy. With English summary.) *Kansant. Aikak.*, 1978, *74*(4), pp. 353–64.

• Pryor, Z. P. Czechoslovak Fiscal Policies in the Great Depression. *Econ. Hist. Rev.*, *2nd Ser.*, May 1979, *32*(2), pp. 228–40.

Renshaw, E. and Reeb, D. Government Budgets and Public Services: Some Criteria for Determining the Sources and Levels of Public Goods, Including Transport Services. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 275–86.

• Riese, H. Theoretische Grundlagen stabilitätspolitischer Kontroversen. (The Theoretical Foundations of Stabilization Controversies.) *Kyklos*, 1979, *32*(1/2), pp. 219–35.

Rinaldi, S.; Soncini-Sessa, R. and Whinston, A. B. Stable Taxation Schemes in Regional Environmental Management. *J. Environ. Econ. Manage.*, March 1979, *6*(1), pp. 29–50.

• Rødseth, A. Macroeconomic Policy in a Small Open Economy. *Scand. J. Econ.*, 1979, *81*(1), pp. 48–59.

Rose-Ackerman, S. Market Models of Local Government: Exit, Voting and the Land Market. *J. Urban Econ.*, July 1979, *6*(3), pp. 319–37.

• Seidman, L. S. TIP: Feasibility and Equity. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 24–37.

Sen, R. K. The Theory & Practice of Our Income Tax. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 28–39.

Sheehan, P.; Derody, B. and Rosendale, P. An Assessment of Recent Empirical Work Relevant to Macroeconomic Policy in Australia. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 33–61.

Sinha, K. K. Theory of Property Taxation: Some Issues. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 8–17.

Stephens, J. K. and Grapentine, T. The Relationship between FEBS and GNP: Comment. *Econ. Inquiry*, April 1979, *17*(2), pp. 287–92.

Stewart, M. B. Should Government Subsidize Risky Private Projects? Comment. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 459–61.

Suominen, R. Empirical Results Concerning Vertical and Horizontal Redistribution in Finland. *Rev. Income Wealth*, March 1979, *25*(1), pp. 83–103.

Tanner, J. E. An Empirical Investigation of Tax Discounting: A Comment. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 214–18.

Tanner, J. E. Fiscal Policy and Consumer Behavior. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 317–21.

Upadhyay, K. S. Theory of Taxation. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 267–78.

Väisänen, J. Finanssipolitiikan Arkhimedeen

laki? (Archimedes' Law in Fiscal Policy? With English summary.) *Kansant. Aikak.*, 1979, *75*(2), pp. 185–200.

- **Vehorn, C. L.** Market Interaction between Public and Private Goods: The Demand for Fire Protection. *Nat. Tax J.*, March 1979, *32*(1), pp. 29–39.
- **Wales, T. J. and Woodland, A. D.** Labour Supply and Progressive Taxes. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 83–95.

Whalley, J. Capital Gains Taxation and Interest Rate Changes: An Extension of Paish's Argument. *Nat. Tax J.*, March 1979, *32*(1), pp. 87–91.

- **Whalley, J.** Uniform Domestic Tax Rates, Trade Distortions and Economic Integration. *J. Public Econ.*, April 1979, *11*(2), pp. 213–21.

Wong, C. and Pettersen, Ø. Financial Programming in the Framework of Optimal Control. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 20–37.

Yamada, M. On the Theory of Optimal Commodity Taxation: A Survey. (In Japanese. With English summary.) *Osaka Econ. Pap.*, March 1979, *28*(4), pp. 14–30.

Yitzhaki, S. A Note on Optimal Taxation and Administrative Costs. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 475–80.

322 National Government Expenditures and Budgeting

- **Bryant, J. and Wallace, N.** The Inefficiency of Interest-bearing National Debt. *J. Polit. Econ.*, April 1979, *87*(2), pp. 365–81.

Dominic, M. P. Towards an Islamic Order in Pakistan: Introduction of Islamic Taxes (Zakat and Ushr) *Bull. Int. Fiscal Doc.*, 1979, *33*(4), pp. 183–84.

Gambale, S. The Crisis in Public Finance in Italy. *Banca Naz. Lavoro Quart. Rev.*, March 1979, (128), pp. 73–90.

Hong, L. F. Singapore's 1979 Budget—A Summary. *Bull. Int. Fiscal Doc.*, 1979, *33*(4), pp. 181–82.

Krane, D. Longitudinal Patterns of Centralization and Development: Testing Theories of Government Organization. *J. Devel. Areas*, April 1978, *12*(3), pp. 297–314.

Neild, R. Government Borrowing by Deposit. *Lloyds Bank Rev.*, July 1979, (133), pp. 23–36.

Renshaw, E. and Reeb, D. Government Budgets and Public Services: Some Criteria for Determining the Sources and Levels of Public Goods, Including Transport Services. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 275–86.

Scotto di Carlo, G. Il bilancio pubblico per il "Piano triennale." (The Public Budget for the "Three-year Plan." With English summary.) *Bancaria*, January 1979, *35*(1), pp. 44–53.

Seeber, A. V. and Dockel, J. A. The Behaviour of Government Expenditure in South Africa. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 337–51.

de Silva, A. A. Tax Changes in Zambia's Budget for 1979. *Bull. Int. Fiscal Doc.*, 1979, *33*(5), pp. 227–29.

323 National Taxation and Subsidies

Allingham, M. Inequality and Progressive Taxation: An Example. *J. Public Econ.*, April 1979, *11*(2), pp. 273–74.

Basu, J. Income Tax Implications of Various Methods of Accounting for Changing Prices: Discussion. *J. Acc. Res.*, Supplement 1978, *16*, pp. 234–46.

Bates, J. M.; Rayner, A. J. and Custance, P. R. Inflation and Farm Tractor Replacement in the U.S.: A Simulation Model. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 331–34.

Bentley, P.; Collins, D. J. and Rutledge, D. J. S. Estimating the Distributional Effects of Taxation. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 36–51.

Bharadwaj, R. and Nimbur, B., N. The Theory of Tax Effort and Tax Ratio Analysis: A Modified Roy Bahl Model. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 40–45.

Bhatia, H. L. Tax Devolutions in a Framework of Federal Resource Transfers: The Indian Case. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 84–104.

Blomqvist, A. G. Urban Unemployment and Optimal Tax Policy in a Small, Open Dual Economy. *J. Devel. Stud.*, January 1979, *15*(2), pp. 147–64.

Boelaert, R. and Vanmarsenille, L. Inflatie, groei en het drukverloop van de Belgische inkomstenbelasting gedurende de periode 1963–1976. (Inflation, Growth and the Distribution of the Income Tax Burden in Belgium over the Period 1963–76. With English summary.) *Cah. Écon. Bruxelles*, 2nd Semester 1979, (82), pp. 193–212.

Borkar, V. V. The Theory of Taxation—From Neutrality to Optimality. *Indian Econ. J.*, January–March 1979, *26*(3), pp. 1–12.

Brueckner, J. K. Property Values, Local Public Expenditure and Economic Efficiency. *J. Public Econ.*, April 1979, *11*(2), pp. 223–45.

- Choudhry, N. N. Measuring the Elasticity of Tax Revenue: A Divisia Index Approach. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 87–122.

Cooper, G. Saving Estate Taxes for the du Ponts. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 64–68.

Spring 1979, *5*(2), pp. 243–54.

O'Connell, J. F. Multiple Job Holding and Marginal Tax Rates. *Nat. Tax J.*, March 1979, *32*(1), pp. 73–76.

Oberrotman, A. M. Income Tax Implications of Various Methods of Accounting for Changing Prices: Discussion. *J. Acc. Res.*, Supplement 1978, *16*, pp. 247–58.

• **Okner, B. A.** Distributional Aspects of Tax Reform during the Past Fifteen Years. *Nat. Tax J.*, March 1979, *32*(1), pp. 11–27.

Palash, C. J. A Note on the Relative Efficiency of an Acceleration of Depreciation Allowances and an Increase in the Investment Tax Credit. *Nat. Tax J.*, March 1979, *32*(1), pp. 97–99.

Pepper, H. W. T. The Falkland Islands: A Brief Survey of the Tax System. *Bull. Int. Fiscal Doc.*, 1979, *33*(4), pp. 158–61.

Piga, F. Nuove leggi per il salvataggio di imprese industrali (Considerazioni generali). (New Legislation for the Rescue of Industrial Enterprises. (General Considerations) With English summary.) *Bancaria*, January 1979, *35*(1), pp. 16–26.

Radian, A. On the Differences between the Political Economy of Introducing and Implementing Tax Reforms—Israel, 1975–1978. *J. Public Econ.*, April 1979, *11*(2), pp. 261–71.

• **Rivers, R. and Crumbley, D. L.** The Timing Problem for the Unified Estate and Gift Tax. *J. Risk Ins.*, March 1979, *46*(1), pp. 125–38.

Rosen, H. S. Owner Occupied Housing and the Federal Income Tax: Estimates and Simulations. *J. Urban Econ.*, April 1979, *6*(2), pp. 247–66.

Sale, J. T. and Carroll, K. B. Tax Planning Tools for the Multinational Corporation. *Manage. Account.*, June 1979, *60*(12), pp. 37–41.

Scott, J. H., Jr. The Tax Effects of Investment in Marketable Securities on Firm Valuation. *J. Finance*, May 1979, *34*(2), pp. 307–24.

Sen, R. K. The Theory & Practice of Our Income Tax. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 28–39.

de Silva, A. A. Tax Changes in Zambia's Budget for 1979. *Bull. Int. Fiscal Doc.*, 1979, *33*(5), pp. 227–29.

Sinha, K. K. Theory of Property Taxation: Some Issues. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 8–17.

Spiro, E. The 1979 Income Tax Changes in the Republic of South Africa. *Bull. Int. Fiscal Doc.*, 1979, *33*(5), pp. 210–12.

Suominen, R. Empirical Results Concerning Vertical and Horizontal Redistribution in Finland. *Rev. Income Wealth*, March 1979, *25*(1), pp. 83–103.

Sury, M. M. Elasticity of Tax Revenue—Some Measurement Problems. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 18–27.

• **Tait, A. A.; Grätz, W. L. M. and Eichengreen, B. J.** International Comparisons of Taxation for Selected Developing Countries, 1972–76. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 123–56.

Tanner, J. E. An Empirical Investigation of Tax Discounting: A Comment. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 214–18.

Tanzi, V. Import Taxes and Economic Development. *Econ. Int.*, August–November 1978, *31*(3–4), pp. 252–69.

Thompson, R. Financial Markets and Business Finance: Discussion. *J. Finance*, May 1979, *34*(2), pp. 339–42.

Truong, T. V. and Gash, D. N. Less-Developed Countries' Taxable Capacity and Economic Integration: A Cross-Sectional Analysis. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 312–16.

Upadhyay, K. S. Theory of Taxation. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 267–78.

Van Herck, G. Neutrale Inkomstenbelastingen. (With English summary.) *Tijdschrift Econ. Manage.*, 1979, *24*(1), pp. 23–32.

Whalley, J. Capital Gains Taxation and Interest Rate Changes: An Extension of Paish's Argument. *Nat. Tax J.*, March 1979, *32*(1), pp. 87–91.

• **Whalley, J.** Uniform Domestic Tax Rates, Trade Distortions and Economic Integration. *J. Public Econ.*, April 1979, *11*(2), pp. 213–21.

Woodside, K. Tax Incentives vs. Subsidies: Political Considerations in Governmental Choice. *Can. Public Policy*, Spring 1979, *5*(2), pp. 248–56.

Yeoh, C. S. Malaysia: The Real Property Gains Tax Act, 1976—An Outline. *Bull. Int. Fiscal Doc.*, 1979, *33*(3), pp. 100–14.

Yitzhaki, S. A Note on Optimal Taxation and Administrative Costs. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 475–80.

324 State and Local Government Finance

• **Bowman, J. H.** Federal Restrictions on State Taxation of Military Pay Revisited: A Note on Tax Avoidance through Domicile Shifting Following Removal of the Withholding Prohibition. *Nat. Tax J.*, March 1979, *32*(1), pp. 41–49.

Brueckner, J. K. Property Values, Local Public Expenditure and Economic Efficiency. *J. Public Econ.*, April 1979, *11*(2), pp. 223–45.

• **Doebele, W. A.; Grimes, O. F., Jr. and Linn, J. F.** Participation of Beneficiaries in Financing Urban Services: Valorization Charges in Bogotá,

325 **Intergovernmental Financial Relationships**

400 International Economics

410 International Trade Theory

411 **International Trade Theory**

Country Tariff Escalation and Developing-Country Export Taxes. *J. Polit. Econ.*, June 1979, *87*(3), pp. 559–77.

Hanoch, G. and Fraenkel, M. Income and Substitution Effects in the Two-Sector Open Economy. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 455–58.

Hirsch, S. The Leontief Paradox in a Multi-Country Setting: Reply. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 146–48.

Kennedy, C. and Thirlwall, A. P. The Input-Output Formulation of the Foreign Trade Multiplier. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 173–80.

• **Krugman, P.** A Model of Innovation, Technology Transfer, and the World Distribution of Income. *J. Polit. Econ.*, April 1979, *87*(2), pp. 253–66.

Love, J. A Model of Trade Diversification Based on the Markowitz Model of Portfolio Analysis. *J. Devel. Stud.*, January 1979, *15*(2), pp. 233–41.

• **Manning, R. and McMillan, J.** Public Intermediate Goods, Production Possibilities, and International Trade. *Can. J. Econ.*, May 1979, *12*(2), pp. 243–57.

Michaely, M. Exports and Growth: A Reply. *J. Devel. Econ.*, March 1979, *6*(1), pp. 141–43.

• **Pelcovits, M. D.** The Equivalence of Quotas and Buffer Stocks as Alternative Stabilization Policies. *J. Int. Econ.*, May 1979, *9*(2), pp. 303–07.

Ranuzzi, P. Trade Creation and Substitution Effects of Multilateral Tariff Reductions: The Tokyo Round of Trade Negotiations within the Framework of the General Agreement on Tariffs and Trade (GATT) *Econ. Int.*, August–November 1978, *31*(3–4), pp. 212–33.

Rosati, D. The Use of Foreign Trade in Carrying out the Strategy of Economic Development. *Eastern Europ. Econ.*, Spring 1979, *17*(3), pp. 44–62.

• **Rothschild, K. W.** Aussenhandlestheorie, Aussenhandelspolitik und Anpassungsdruck. (Foreign Trade Theory, Foreign Trade Policy and the Adjustment Problem.) *Kyklos*, 1979, *32*(1/2), pp. 47–58.

• **Ruffin, R. J.** Tariffs, the Balance of Payments, and the Demand for Money. *J. Int. Econ.*, May 1979, *9*(2), pp. 287–302.

• **Sakai, Y.** A Simple General Equilibrium Model of Production: Comparative Statics with Price Uncertainty. *J. Econ. Theory*, December 1978, *19*(2), pp. 287–306.

• **Smith, M. A. M.** Intertemporal Gains from Trade. *J. Int. Econ.*, May 1979, *9*(2), pp. 239–48.

Tanzi, V. Import Taxes and Economic Development. *Econ. Int.*, August–November 1978, *31*(3–4), pp. 252–69.

• **Uekawa, Y.** The Theory of Effective Protection, Resource Allocation and the Stolper-Samuelson Theorem: The Many-Industry Case. *J. Int. Econ.*, May 1979, *9*(2), pp. 151–71.

• **Wegge, L. L.** Conjugate Small Country Production Equilibrium Concepts. *J. Int. Econ.*, May 1979, *9*(2), pp. 173–96.

• **Young, L.** Ranking Optimal Tariffs and Quotas for a Large Country under Uncertainty. *J. Int. Econ.*, May 1979, *9*(2), pp. 249–64.

420 Trade Relations; Commercial Policy; International Economic Integration

Deutsch, E. The Sensitivity of the Austrian Economy in the Case of an External Crisis. *Écon. Appl.*, 1978, *31*(3–4), pp. 547–60.

Evans, D. International Commodity Policy: UNCTAD and NIEO in Search of a Rationale. *World Devel.*, March 1979, *7*(3), pp. 259–80.

Miller, G. W. Statement to Congress. *Fed. Res. Bull.*, June 1979, *65*(6), pp. 470–75.

Weintraub, S. The New International Economic Order: The Beneficiaries. *World Devel.*, March 1979, *7*(3), pp. 247–58.

421 Trade Relations

Askanas, B.; Askanas, H. and Levcik, F. The Foreign Trade of the CMEA Countries in the Second Half of the Seventies. *Eastern Europ. Econ.*, Spring 1979, *17*(3), pp. 77–87.

Bach, C. L. U.S. International Transactions, Fourth Quarter and Year 1978. *Surv. Curr. Bus.*, March 1979, *59*(3), pp. 38–62.

• **Balassa, B.** The Changing Pattern of Comparative Advantage in Manufactured Goods. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 259–66.

• **Barker, T. S.** Identification of Activity Effects, Trends and Cycles in Import Demand. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 63–68.

• **Bond, M. E.** The World Trade Model: Invisibles. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 257–333.

Caceres, L. R. On the Interregional Multiplier Effects of Changes in Transport Costs. *J. Reg. Sci.*, May 1979, *19*(2), pp. 191–99.

• **Chambers, R. G. and Just, R. E.** A Critique of Exchange Rate Treatment in Agricultural Trade Models. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 249–57.

• **Chamberlin, C.** Bulk Exports, Trade Tiers, Regulation, and Development: An Economic Approach to the Study of West Africa's "Legitimate Trade." *J. Econ. Hist.*, June 1979, *39*(2), pp. 419–38.

• **Choudhri, E. U.** The Pattern of Trade in Individ

31(1), pp. 121–32.

Vernon, R. The Fragile Foundations of East-West Trade. *Foreign Aff.*, Summer 1979, *57*(5), pp. 1035–51.

Whitley, J. D. and Wilson, R. A. Trends and Cycles in Import Penetration in the UK: Comment. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 69–77.

• **Wilson, J. F. and Takacs, W. E.** Differential Responses to Price and Exchange Rate Influences in the Foreign Trade of Selected Industrial Countries. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 267–79.

• **Yeats, A. J.** On the Accuracy of Partner Country Trade Statistics. *Oxford Bull. Econ. Statist.*, November 1978, *40*(4), pp. 341–61.

Yeats, A. J. Recent Changes in Developing Country Exports. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 149–65.

422 Commercial Policy

• **Arad, R. W. and Hillman, A. L.** Embargo Threat, Learning and Departure from Comparative Advantage. *J. Int. Econ.*, May 1979, *9*(2), pp. 265–75.

Curzon, G. and Curzon, V. The Multi-Tier GATT System. *Aussenwirtschaft*, March 1979, *34*(1), pp. 27–36.

• **Furtan, W. H.; Nagy, J. G. and Storey, G. G.** The Impact on the Canadian Rapeseed Industry from Changes in Transport and Tariff Rates. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 238–48.

• **Gelb, A. H.** On the Definition and Measurement of Instability and the Costs of Buffering Export Fluctuations. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 149–62.

• **Golub, S. S. and Finger, J. M.** The Processing of Primary Commodities: Effects of Developed-Country Tariff Escalation and Developing-Country Export Taxes. *J. Polit. Econ.*, June 1979, *87*(3), pp. 559–77.

Hayami, Y. Trade Benefits to All: A Design of the Beef Import Liberalization in Japan. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 342–47.

Junz, H. B. Adjustment Policies and Trade Relations with Developing Countries. *Nebr. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 25–44.

Kosobud, R. F. and Stokes, H. H. Oil Market Share Dynamics: A Markov Chain Analysis of Consumer and Producer Adjustments. *Empirical Econ.*, 1978, *3*(4), pp. 253–75.

Lal, D. Indian Export Incentives. *J. Devel. Econ.*, March 1979, *6*(1), pp. 103–17.

Manes, P. Medium and Long-Term Export Credit. *Aussenwirtschaft*, March 1979, *34*(1), pp. 91–95.

• **Pelcovits, M. D.** The Equivalence of Quotas and Buffer Stocks as Alternative Stabilization Policies. *J. Int. Econ.*, May 1979, *9*(2), pp. 303–07.

Ranuzzi, P. Trade Creation and Substitution Effects of Multilateral Tariff Reductions: The Tokyo Round of Trade Negotiations within the Framework of the General Agreement on Tariffs and Trade (GATT) *Econ. Int.*, August–November 1978, *31*(3–4), pp. 212–33.

• **Rothschild, K. W.** Aussenhandlestheorie, Aussenhandelspolitik und Anpassungsdruck. (Foreign Trade Theory, Foreign Trade Policy and the Adjustment Problem.) *Kyklos*, 1979, *32*(1/2), pp. 47–58.

• **Tovias, A.** The Outcome of Closer Economic Links with the EEC for LDCs' Exports Previously Dumped in World Markets: An Empirical Investigation. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 121–32.

Willett, T. D. The Joint Economic Committee on International Economic Issues: A Review Article. *J. Monet. Econ.*, July 1979, *5*(3), pp. 413–28.

423 Economic Integration

Boll, F. The Structure of the Balance of Payments of the Belgo-Luxemburg Economic Union in Relation to Its Dual Exchange-Rate System. *Cah. Écon. Bruxelles*, 1st Semester 1979, (81), pp. 31–69.

Ďurkovič, H. Socialist Economic Integration: Source of Our Future Successes. *Czech. Econ. Digest.*, May 1979, (3), pp. 47–59.

Kirkpatrick, C. H. The Renegotiation of the Lomé Convention. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 23–33.

Klochek, V. Soviet Foreign Trade. *Prob. Econ.*, March 1979, *21*(11), pp. 3–21.

Kloten, N. Das Europäische Währungssystem aus der Sicht der Bundesrepublik. (With English summary.) *Aussenwirtschaft*, March 1979, *34*(1), pp. 84–90.

Locksley, G. and Ward, T. Concentration in Manufacturing in the EEC. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 91–97.

Mayer, H. W. Der Eurowährungsmarkt, seine makroökonomische Problematik und Auswirkungen. (With English summary.) *Aussenwirtschaft*, March 1979, *34*(1), pp. 37–58.

Müller, C. The Role of the European Free Trade Association Today. *Ekon. Samfundets Tidskr.*, 1979, *32*(1), pp. 5–18.

Okita, S. Japan, China and the United States: Economic Relations and Prospects. *Foreign Aff.*, Summer 1979, *57*(5), pp. 1090–1110.

• **Papantoniou, J.** Foreign Trade and Industrial Development: Greece and the EEC. *Cambridge*

430 Balance of Payments; International Finance

431 Balance of Payments; Mechanisms of Adjustment; Exchange Rates

• **Deardorff, A. V.** One-Way Arbitrage and Its Implications for the Foreign Exchange Markets. *J. Polit. Econ.*, April 1979, *87*(2), pp. 351–64.

Dick, H. Survey of Recent Developments. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 1–44.

• **Duck, N. W. and Zis, G.** The Natural Rate Hypothesis, Policy Rules, and Fixed Exchange Rates. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 36–46.

Emminger, O. The Exchange Rate as an Instrument of Policy. *Lloyds Bank Rev.*, July 1979, (133), pp. 1–22.

• **Enders, W. and Lapan, H. E.** Stability, Random Disturbances and the Exchange Rate Regime. *Southern Econ. J.*, July 1979, *46*(1), pp. 49–70.

Ethier, W. Expectations and the Asset-Market Approach to the Exchange Rate. *J. Monet. Econ.*, April 1979, *5*(2), pp. 259–82.

Fieleke, N. S. Foreign-Exchange Speculation by U.S. Firms: Some New Evidence. *New Eng. Econ. Rev.*, March/April 1979, pp. 5–17.

• **Flood, R. P.** An Example of Exchange Rate Overshooting. *Southern Econ. J.*, July 1979, *46*(1), pp. 168–78.

Franco, G. R. Domestic Credit and the Balance of Payments in Ghana. *J. Devel. Stud.*, January 1979, *15*(2), pp. 202–15.

Frankel, A. B. U.S. International Transactions in 1978. *Fed. Res. Bull.*, April 1979, *65*(4), pp. 299–304.

Freedman, C. A Note on Net Interest Payments to Foreigners under Inflationary Conditions. *Can. J. Econ.*, May 1979, *12*(2), pp. 291–99.

Frenkel, J. A. and Levich, R. M. Covered Interest Arbitrage and Unexploited Profits? Reply. *J. Polit. Econ.*, April 1979, *87*(2), pp. 418–22.

Frenkel, J. A. Further Evidence on Expectations and the Demand for Money during the German Hyperinflation. *J. Monet. Econ.*, January 1979, *5*(1), pp. 81–96.

• **Giddy, I. H.; Dufey, G. and Min, S.** Interest Rates in the U.S. and Eurodollar Markets. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 51–67.

Gidlow, R. M. The Case for a Forward Exchange Market in South Africa. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 38–58.

Gidlow, R. M. The Rand Currency Link: Reply. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 406.

Goodman, S. H. Foreign Exchange Rate Forecasting Techniques: Implications for Business and Policy. *J. Finance*, May 1979, *34*(2), pp. 415–27.

• **Gregory, P. R.** The Russian Balance of Payments, the Gold Standard, and Monetary Policy: A Historical Example of Foreign Capital Movements. *J. Econ. Hist.*, June 1979, *39*(2), pp. 379–99.

Hanoch, G. and Fraenkel, M. Income and Substitution Effects in the Two-Sector Open Economy. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 455–58.

Holden, P. and Holden, M. Exchange Rate Policy and the Demand for International Reserves. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 232–46.

Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations: Interim Report. *Fed. Res. Bull.*, June 1979, *65*(6), pp. 456–58.

Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations. *Fed. Res. Bank New York Quart. Rev.*, Spring 1979, *4*(1), pp. 67–87.

Holsen, J. A. Notes on the 'LDC Debt Problem' *World Devel.*, February 1979, *7*(2), pp. 145–59.

• **Horne, J.** The Effect of Devaluation on the Balance of Payments and the Labour Market: United Kingdom, 1967. *Economica*, February 1979, *46*(181), pp. 11–25.

• **Jager, H.** The Impact of the Exchange Rate System on the Effectiveness and Implementation of Stabilization Policy in the Netherlands. *De Economist*, 1979, *127*(1), pp. 143–86.

Johnson, H. G. Balance-of-Payments Adjustment with Bonds and Goods: A Geometrical Approach. *Pakistan Econ. Soc. Rev.*, Autumn–Winter 1977, *15*(3–4), pp. 95–126.

• **Kaminow, I. P.** Economic Stability under Fixed and Flexible Exchange Rates. *J. Int. Econ.*, May 1979, *9*(2), pp. 277–85.

Kaufmann, H. M. Germany's Option to be a Mini-Locomotive: A Reassessment of 1977. *Econ. Int.*, August–November 1978, *31*(3–4), pp. 196–211.

Keran, M. W. Money and Exchange Rates—1974–79. *Fed. Res. Bank San Francisco Econ. Rev.*, Spring 1979, pp. 19–34.

Manes, P. Medium and Long-Term Export Credit. *Aussenwirtschaft*, March 1979, *34*(1), pp. 91–95.

McCormick, F. Covered Interest Arbitrage: Unexploited Profits? Comment. *J. Polit. Econ.*, April 1979, *87*(2), pp. 411–17.

van der Merwe, G. C. The Rand Currency Link: Comment. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 403–05.

Miles, M. A. and Wilford, D. S. Foreign Exchange Market Efficiency under Flexible Exchange Rates: Comment. *J. Finance*, June 1979, *34*(3), pp. 787–89.

• **Miles, M. A.** The Effects of Devaluation on the Trade Balance and the Balance of Payments: Some New Results. *J. Polit. Econ.*, June 1979, *87*(3), pp. 600–20.

432 International Monetary Arrangements

Holmes, A. R. and Pardee, S. E. Treasury and Federal Reserve Foreign Exchange Operations. *Fed. Res. Bank New York Quart. Rev.*, Spring 1979, *4*(1), pp. 67–87.

Horwood, O. P. F. The Monetary Role of Gold: The Need for a Reappraisal. *S. Afr. J. Econ.*, December 1978, *46*(4), pp. 326–36.

Kloten, N. Das Europäische Währungssystem aus der Sicht der Bundesrepublik. (With English summary.) *Aussenwirtschaft*, March 1979, *34*(1), pp. 84–90.

Kriz, M. A. Il nuovo regime dell'oro e le realtà monetarie. (The New Gold Standard and the Monetary Situation. With English summary.) *Mondo Aperto*, February 1979, *33*(1), pp. 1–12.

Krümmel, H.-J. Bedingungen für die Schwankungen der Goldpreise im Spiegel der Marktberichterstattung. (Conditions Governing Gold Price Fluctuations as Reflected in Market Reports. With English summary.) *Kredit Kapital*, 1979, *12*(2), pp. 245–63.

Machlup, F. The EMS, the Odds for Stability, the US Dollar, and the IMF. *Aussenwirtschaft*, March 1979, *34*(1), pp. 77–83.

Mayer, H. W. Der Eurowährungsmarkt, seine makroökonomische Problematik und Auswirkungen. (With English summary.) *Aussenwirtschaft*, March 1979, *34*(1), pp. 37–58.

Nigam, R. S. and Bhalla, V. K. International Monetary Developments and Transnational Corporations. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 153–67.

Salda, A. C. M. The International Monetary Fund, 1976–1977: A Selected Bibliography. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 367–413.

Wionczek, M. S. International Indebtedness and World Economic Stagnation: Editor's Introduction. *World Devel.*, February 1979, *7*(2), pp. 91–94.

440 International Investment and Foreign Aid

441 International Investment and Capital Markets

Agodo, O. The Determinants of U.S. Private Manufacturing Investments in Africa. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 95–107.

Dunning, J. H. The UK's International Direct Investment Position in the Mid-1970s. *Lloyds Bank Rev.*, April 1979, (132), pp. 1–21.

Franko, L. G. Foreign Direct Investment in Less Developed Countries: Impact on Home Countries. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 55–65.

• **Hartman, D. G.** Foreign Investment and Finance with Risk. *Quart. J. Econ.*, May 1979, *93*(2), pp. 213–32.

Hughes, H. Debt and Development: The Role of Foreign Capital in Economic Growth. *World Devel.*, February 1979, *7*(2), pp. 95–112.

Lombard, F. J. Screening Foreign Direct Investment in LDCs: Empirical Findings of the Colombian Case (1967–1975) *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 66–80.

• **Ozawa, T.** International Investment and Industrial Structure: New Theoretical Implications from the Japanese Experience. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 72–92.

Parry, T. G. and Watson, J. F. Technology Flows and Foreign Investment in the Australian Manufacturing Sector. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 103–18.

Root, F. R. and Ahmed, A. A. Empirical Determinants of Manufacturing Direct Foreign Investment in Developing Countries. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 751–67.

Root, F. R. and Ahmed, A. A. The Influence of Policy Instruments on Manufacturing Direct Foreign Investment in Developing Countries. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 81–93.

Sharan, V. Multinational Corporations and the Balance of Payments Problems in a Developing Host Country: An Indian Experience. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 199–215.

Wells, L. T. and Warren, V'E. Developing Country Investors in Indonesia. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 69–84.

442 International Business

• **Agarwal, J. P.** Productivity of Foreign and Domestic Firms in Indian Industries. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 116–27.

Ashcroft, B. and Ingham, K. P. D. Company Adaptation and the Response to Regional Policy: A Comparative Analysis of MNC Subsidiaries and Indigenous Companies. *Reg. Stud.*, 1979, *13*(1), pp. 25–37.

Bonaparte, T. H. Multinational Corporations and Culture in Liberia. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 237–51.

Choi, F. D. S. Political Risk—An Accounting Challenge. *Manage. Account.*, June 1979, *60*(12), pp. 17–20.

Cypher, J. M. The Transnational Challenge to the Corporate State. *J. Econ. Issues*, June 1979, *13*(2), pp. 513–42.

van Dam, A. Toward a Different Role for Multinationals in the Third World. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 125–28.

Fieleke, N. S. Foreign-Exchange Speculation by U.S. Firms: Some New Evidence. *New Eng. Econ. Rev.*, March/April 1979, pp. 5–17.

tions and Expatriate Managers in Europe. *Calif. Manage. Rev.*, Spring 1979, *21*(3), pp. 40–50.

443 International Aid

Bohnet, M. Instrumente der Entwicklungshilfe. (Instruments of Development Assistance. With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 43–74.

Buira Seira, A. The World Economy, External Debt and Prospects for Development Financing. *World Devel.*, February 1979, *7*(2), pp. 125–33.

Cizauskas, A. C. International Debt Renegotiation: Lessons from the Past. *World Devel.*, February 1979, *7*(2), pp. 199–210.

Fisk, C. and Rimlinger, F. Nonparametric Estimates of LDC Repayment Prospects. *J. Finance*, May 1979, *34*(2), pp. 429–36.

Hardy, C. S. Commercial Bank Lending to Developing Countries: Supply Constraints. *World Devel.*, February 1979, *7*(2), pp. 189–97.

Helleiner, G. K. Relief and Reform in Third World Debt. *World Devel.*, February 1979, *7*(2), pp. 113–24.

Holsen, J. A. Notes on the 'LDC Debt Problem' *World Devel.*, February 1979, *7*(2), pp. 145–59.

Hughes, H. Debt and Development: The Role of Foreign Capital in Economic Growth. *World Devel.*, February 1979, *7*(2), pp. 95–112.

Isenman, P. and Singer, H. W. The Price-Disincentive Effect of Food Aid Revisited: A Reply. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 553–54.

Kilby, P. Evaluating Technical Assistance. *World Devel.*, March 1979, *7*(3), pp. 309–23.

Maxwell, S. J. and Singer, H. W. Food Aid to Developing Countries: A Survey. *World Devel.*, March 1979, *7*(3), pp. 225–47.

Sarkar, P. L. Transfer of Technology to Less Developed Countries: Indian Experience with Multinational Corporations. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 131–52.

Shihata, I. F. I. OPEC Aid, the OPEC Fund, and Cooperation with Commercial Development Finance Sources. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 291–303.

Shihata, I. F. I. and Mabro, R. The OPEC Aid Record. *World Devel.*, February 1979, *7*(2), pp. 161–73.

Svedberg, P. The Price-Disincentive Effect of Food Aid Revisited: A Comment. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 549–52.

Wionczek, M. S. International Indebtedness and World Economic Stagnation: Editor's Introduction. *World Devel.*, February 1979, *7*(2), pp. 91–94.

Wionczek, M. S. Possible Solutions to the External Public Debt Problem of the Developing Countries: Final Report. *World Devel.*, February 1979, *7*(2), pp. 211–24.

Wionczek, M. S. The LDC External Debt and the Euromarkets: The Impressive Record and the Uncertain Future. *World Devel.*, February 1979, *7*(2), pp. 175–87.

500 Administration; Business Finance; Marketing; Accounting

• **Frey, R. L. and Hill, W.** Volkswirtschaftslehre und Betriebswirtschaftslehre: Entwicklungstendenzen und Kooperationsmöglichkeiten. (Economics and Business Administration: Trends and Possibilities of Cooperation.) *Kyklos*, 1979, *32*(1/2), pp. 451–74.

Wootton, R. R. Creditors' Derivative Suits on Behalf of Solvent Corporations. *Yale Law J.*, May 1979, *88*(6), pp. 1299–1318.

510 Administration

511 Organization and Decision Theory

Baldwin, C. Timing of Mandated Investments: A Framework for Decision Making. *Sloan Manage. Rev.*, Spring 1979, *20*(3), pp. 30–39.

Chenhall, R. H. Some Elements of Organisational Control in Australian Divisionalised Firms. *Australian J. Manage.*, Supplement April 1979, *4*, pp. 1–36.

Emshoff, J. R. and Finnel, A. Defining Corporate Strategy: A Case Study Using Strategic Assumptions Analysis. *Sloan Manage. Rev.*, Spring 1979, *20*(3), pp. 41–52.

Gahmberg, H. On the Control of Control Systems. *Liiketaloudellinen Aikak.*, 1979, *28*(1), pp. 38–50.

Kilmann, R. H. and Mitroff, I. I. Problem Defining and the Consulting/Intervention Process. *Calif. Manage. Rev.*, Spring 1979, *21*(3), pp. 26–33.

Knowles, M. C. and Knowles, A. D. Job Satisfaction and the Organization's Internal Structure. *Australian J. Manage.*, April 1979, *4*(1), pp. 69–78.

Mason, R. O. and Swanson, E. B. Measurement for Management Decision: A Perspective. *Calif. Manage. Rev.*, Spring 1979, *21*(3), pp. 70–81.

Tell, B. and Wallenius, J. A Survey of Multiple-Criteria Decision Methods and Applications: Utility Theory and Mathematical Programming. *Liiketaloudellinen Aikak.*, 1979, *28*(1), pp. 3–22.

512 Managerial Economics

Baker, A. J. Growth and Valuation in 'Managerial' Theory: An Alternative View. *J. Econ. Stud.*,

513 Business and Public Administration

514 Goals and Objectives of Firms

520 BUSINESS FINANCE AND INVESTMENT

nance, May 1979, *34*(2), pp. 517–29.

Ederington, L. H. Aspects of the Production of Significant Financial Research. *J. Finance,* June 1979, *34*(3), pp. 777–86.

Freidenfelds, J. and Kennedy, M. Price Inflation and Long-Term Present-Worth Studies. *Eng. Econ.,* Spring 1979, *24*(3), pp. 143–60.

Fromm, G. and Cicoolo, J. "q" and the Theory of Investment. *J. Finance,* May 1979, *34*(2), pp. 535–47.

• **Hartman, D. G.** Foreign Investment and Finance with Risk. *Quart. J. Econ.,* May 1979, *93*(2), pp. 213–32.

Ingersoll, J. Multiperiod Financial Models: Discussion. *J. Finance,* May 1979, *34*(2), pp. 531–33.

Karna, A. Bank Holding Company Profitability: Nonbanking Subsidiaries and Financial Leverage. *J. Bank Res.,* Spring 1979, *10*(1), pp. 28–35.

Malkiel, B. G. The Capital Formation Problem in the United States. *J. Finance,* May 1979, *34*(2), pp. 291–306.

• **Miller, M. H. and Scholes, M. S.** Dividends and Taxes. *J. Finan. Econ.,* December 1978, *6*(4), pp. 333–64.

521 Business Finance

Abdel-Khalik, A. R. and McKeown, J. C. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: A Reply. *J. Acc. Res.,* Supplement 1978, *16,* pp. 106–10.

Abdel-Khalik, A. R. and McKeown, J. C. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk. *J. Acc. Res.,* Supplement 1978, *16,* pp. 46–77.

Aliber, R. Z. New Techniques for Assessing International Risk: Discussion. *J. Finance,* May 1979, *34*(2), pp. 436–38.

Bailes, J. C.; Nielsen, J. F. and Wendell, S. Capital Budgeting in the Forest Products Industry. *Manage. Account.,* July 1979, *61*(1), pp. 46–51, 57.

Ball, R., et al. Dividends and the Value of the Firm: Evidence from the Australian Equity Market. *Australian J. Manage.,* April 1979, *4*(1), pp. 13–26.

Ben-Zion, U. A Joint Product Approach to Capital Market Equilibrium. *Amer. Econ.,* Spring 1979, *23*(1), pp. 44–48.

Benninga, S. General Equilibrium with Financial Markets: Existence, Uniqueness, and Implications for Corporate Finance. *J. Finance,* May 1979, *34*(2), pp. 325–39.

Bhattacharya, S. Financial Markets and Business Finance: Discussion. *J. Finance,* May 1979, *34*(2), pp. 342–45.

Bidwell, C. M., III. A Test of Market Efficiency: SUE/PE. *J. Portfol. Manage.,* Summer 1979, *5*(4), pp. 53–58.

Boatsman, J. R. and Revsine, L. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: Discussion. *J. Acc. Res.,* Supplement 1978, *16,* pp. 96–105.

• **Bowman, R. G.** The Theoretical Relationship between Systematic Risk and Financial (Accounting) Variables. *J. Finance,* June 1979, *34*(3), pp. 617–30.

Brown, L. D. and Rozeff, M. S. The Predictive Value of Interim Reports for Improving Forecasts of Future Quarterly Earnings. *Accounting Rev.,* July 1979, *54*(3), pp. 585–91.

Chan, K. H.; Lam, S. F. and Tang, R. Probabilistic Approaches to Return on Investment and Residual Income: A Comment. *Accounting Rev.,* July 1979, *54*(3), pp. 643–49.

Chen, A. H. and Kim, E. H. Theories of Corporate Debt Policy: A Synthesis. *J. Finance,* May 1979, *34*(2), pp. 371–84.

Cooper, G. Saving Estate Taxes for the du Ponts. *J. Portfol. Manage.,* Summer 1979, *5*(4), pp. 64–68.

Easman, W. S., Jr. Disclosure of Estimates of Holding Gains and the Assessment of Systematic Risk: Discussion. *J. Acc. Res.,* Supplement 1978, *16,* pp. 78–92.

Ekholm, B.-G. Reflexioner kring aktiemarknadsforskningens inriktning. (Some Thoughts about Current Trends in Equity Market Research. With English summary.) *Ekon. Samfundets Tidskr.,* 1979, *32*(1), pp. 63–68.

Eubank, A. A., Jr. and Zumwalt, J. K. An Analysis of the Forecast Error Impact of Alternative Beta Adjustment Techniques and Risk Classes. *J. Finance,* June 1979, *34*(3), pp. 761–76.

Ferrara, W. L. Probabilistic Approaches to Return on Investment and Residual Income: A Reply. *Accounting Rev.,* July 1979, *54*(3), pp. 650–51.

• **Ferri, M. G. and Jones, W. H.** Determinants of Financial Structure: A New Methodological Approach. *J. Finance,* June 1979, *34*(3), pp. 631–44.

Freeman, R. N. On the Association between Net Monetary Position and Equity Security Prices. *J. Acc. Res.,* Supplement 1978, *16,* pp. 111–45.

• **Galai, D.** A Convexity Test for Traded Options. *Quart. Rev. Econ. Bus.,* Summer 1979, *19*(2), pp. 83–90.

• **Geske, R.** The Valuation of Compound Options. *J. Finan. Econ.,* March 1979, *7*(1), pp. 63–81.

Gheysens, L.; Regidor, B. and Vanthienen, L. Cost of Equity Capital of 185 Belgian Companies. *Tijdschrift Econ. Manage.,* 1979, *24*(1),

522 Business Investment

pp. 161–68.

Brenner, M. and Downes, D. H. A Critical Evaluation of the Measurement of Conglomerate Performance Using the Capital Asset Pricing Model. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 292–96.

Chung, W. K. Capital Expenditures by Majority-Owned Foreign Affiliates of U.S. Companies, 1979. *Surv. Curr. Bus.*, March 1979, *59*(3), pp. 32–37.

Cozzolino, J. M. A New Method for Risk Analysis. *Sloan Manage. Rev.*, Spring 1979, *20*(3), pp. 53–66.

Gandhi, D. K. and Saunders, A. Optimal Tax Structures and Risk Aversion. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 286–91.

Gerard, M. Investissements dans les branches d'activités, conjoncture et politique économique, une étude économétrique pour la Belgique (1953–1976). (With English summary.) *Cah. Écon. Bruxelles*, 2nd Semester 1979, (82), pp. 167–92.

Gerstenberger, W. Plandaten und Prognose der Investitionsausgaben. (Forecasting Capital Expenditures with Plan Data. (With English Summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 125–54.

Kanniainen, V. Inflaatio, Pääomakustannus ja investointikysyntä. (Inflation, Cost of Capital and Investment Demand. With English summary.) *Liiketaloudellinen Aikak.*, 1979, *28*(1), pp. 51–59.

Krasovskii, A. Capital Investment Policy in the Period of Developed Socialism. *Prob. Econ.*, December 1978, *21*(8), pp. 64–84.

Lund, P. J. and Gleed, R. H. The Development Area Share of Manufacturing Industry Investment, 1966–69. *Reg. Stud.*, 1979, *13*(1), pp. 61–72.

Malkiel, B. G.; von Furstenberg, G. M. and Watson, H. S. Expectations, Tobin's q, and Industry Investment. *J. Finance*, May 1979, *34*(2), pp. 549–61.

Palash, C. J. A Note on the Relative Efficiency of an Acceleration of Depreciation Allowances and an Increase in the Investment Tax Credit. *Nat. Tax J.*, March 1979, *32*(1), pp. 97–99.

Reinhart, W. J. The Channels of Influence of Tobin-Brainards "q" on Investment: Discussion. *J. Finance*, May 1979, *34*(2), pp. 561–64.

Schüler, K. W. Auswirkungen des investitionsinduzierten technischen Fortschritts auf das gesamtwirtschaftliche Wachstum. (Investment Induced Technical Progress: Effects on Macroeconomic Growth. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 43–105.

Short, D. G. The Impact of Price-Level Adjustment in the Context of Risk Assessment. *J. Acc. Res.*, Supplement 1978, *16*, pp. 259–72.

• **Smidt, S.** A Bayesian Analysis of Project Selection and of Post Audit Evaluations. *J. Finance*, June 1979, *34*(3), pp. 675–88.

Tatom, J. A. Energy Prices and Capital Formation: 1972-1977. *Fed. Res. Bank St. Louis Rev.*, May 1979, *61*(5), pp. 2–11.

Westerhoff, H.-D. Die Erklärung industrieller Anlageinvestitionen mit dynamischen Akzeleratomodellen. (With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 127–74.

Woodward, J. T. Plant and Equipment Expenditures, First and Second Quarters and Second Half of 1979. *Surv. Curr. Bus.*, March 1979, *59*(3), pp. 26–31.

530 Marketing

531 Marketing and Advertising

Anderson, R. D.; Engledow, J. L. and Becker, H. Advertising Attitudes in West Germany and the U.S.: An Analysis over Age and Time. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 27–38.

Asch, P. The Role of Advertising in Changing Concentration, 1963–1971. *Southern Econ. J.*, July 1979, *46*(1), pp. 288–97.

Comanor, W. S. and Wilson, T. A. The Effect of Advertising on Competition: A Survey. *J. Econ. Lit.*, June 1979, *17*(2), pp. 453–76.

• **Kotowitz, Y. and Mathewson, F.** Informative Advertising and Welfare. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 284–94.

Kroeber-Riel, W. Activation Research: Psychobiological Approaches in Consumer Research. *J. Cons. Res.*, March 1979, *5*(4), pp. 240–50.

McNeill, D. L. and Wilkie, W. L. Public Policy and Consumer Information: Impact of the New Energy Labels. *J. Cons. Res.*, June 1979, *6*(1), pp. 1–11.

• **Meisel, J. B.** Demand and Supply Determinants of Advertising Intensity among Convenience Goods. *Southern Econ. J.*, July 1979, *46*(1), pp. 233–43.

Rogers, R. D. Commentary on "The Neglected Variety Drive." *J. Cons. Res.*, June 1979, *6*(1), pp. 88–91.

Sethi, M. G. Esportazione, alcuni casi aziendali. (Exports, Some Individual Cases. With English summary.) *L'Impresa*, 1979, *21*(1), pp. 37–45.

Shimp, T. A. and Dyer, R. F. The Pain-Pill-Pleasure Model and Illicit Drug Consumption. *J. Cons. Res.*, June 1979, *6*(1), pp. 36–46.

540 Accounting

541 Accounting

Abdel-Khalik, A. R. and McKeown, J. C. Disclosure of Estimates of Holding Gains and

Short, D. G. The Impact of Price-Level Adjustment in the Context of Risk Assessment. *J. Acc. Res.*, Supplement 1978, *16*, pp. 259–72.

Treynor, J. L. On the Association between Net Monetary Position and Equity Security Prices: Discussion. *J. Acc. Res.*, Supplement 1978, *16*, pp. 146–47.

Vatter, W. J. State of the Art—Non-Business Accounting: Review Article. *Accounting Rev.*, July 1979, *54*(3), pp. 574–84.

Watts, R. L. On the Association between Net Monetary Position and Equity Security Prices: Discussion. *J. Acc. Res.*, Supplement 1978, *16*, pp. 148–53.

Wooldredge, W. D. Winning Line Support for New Financial Programs. *Calif. Manage. Rev.*, Spring 1979, *21*(3), pp. 34–39.

Yamakawa, T. T. How the Strong Yen Influenced Financial Reporting in Japan. *Manage. Account.*, June 1979, *60*(12), pp. 26–31.

Zeff, S. A. Theory and "Intermediate" Accounting. *Accounting Rev.*, July 1979, *54*(3), pp. 592–94.

Zimmerman, J. L. The Costs and Benefits of Cost Allocations. *Accounting Rev.*, July 1979, *54*(3), pp. 504–21.

600 Industrial Organization; Technological Change; Industry Studies

610 Industrial Organization and Public Policy

611 Industrial Organization and Market Structure

Asch, P. The Role of Advertising in Changing Concentration, 1963–1971. *Southern Econ. J.*, July 1979, *46*(1), pp. 288–97.

Batzer, E. Fundierung von Wettbewerbspolitik und -gesetzgebung durch die empirische Wirtschaftsforschung. (Investigating for Policy and Legislation Relating to the Competitiveness of Markets. With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 33–42.

Beckenstein, A. R. Merger Activity and Merger Theories: An Empirical Investigation. *Antitrust Bull.*, Spring 1979, *24*(1), pp. 105–28.

Brenner, M. and Downes, D. H. A Critical Evaluation of the Measurement of Conglomerate Performance Using the Capital Asset Pricing Model. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 292–96.

Burch, P. H., Jr. Ownership and Control of American Corporations: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 465–69.

Colburn, A. A. The Conflict between Managers and Shareholders in Diversifying Acquisitions: A Portfolio Theory Approach. *Yale Law J.*, May 1979, *88*(6), pp. 1238–53.

Dalton, J. A. and Qualls, P. D. Market Structure and Inflation. *Antitrust Bull.*, Spring 1979, *24*(1), pp. 17–42.

• **Davies, S. W.** Choosing between Concentration Indices: The Iso-Concentration Curve. *Economica*, February 1979, *46*(181), pp. 67–75.

• **Dickson, V. A.** Sub-optimal Capacity and Market Structure in Canadian Industry. *Southern Econ. J.*, July 1979, *46*(1), pp. 206–17.

Edwards, C. D. The Multimarket Enterprise and Economic Power: Remarks upon Receipt of the Veblen–Commons Award. *J. Econ. Issues*, June 1979, *13*(2), pp. 285–301.

Epple, D. and Raviv, A. Product Reliability and Market Structure. *Southern Econ. J.*, July 1979, *46*(1), pp. 280–87.

• **Fisher, F. M.** Diagnosing Monopoly. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 7–33.

Hoffman, A. C. Ownership and Control of American Corporations: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 457–60.

Kosobud, R. F. and Stokes, H. H. Oil Market Share Dynamics: A Markov Chain Analysis of Consumer and Producer Adjustments. *Empirical Econ.*, 1978, *3*(4), pp. 253–75.

Kotz, D. M. The Significance of Bank Control over Large Corporations. *J. Econ. Issues*, June 1979, *13*(2), pp. 407–26.

Leonard, W. N. Ownership and Control of American Corporations: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 461–64.

Locksley, G. and Ward, T. Concentration in Manufacturing in the EEC. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 91–97.

Lovegrove, P. A. Mergers—Time to Turn the Tide: Comment. *Lloyds Bank Rev.*, April 1979, (132), pp. 49–50.

Lustgarten, S. Gains and Losses from Concentration: A Comment. *J. Law Econ.*, April 1979, *22*(1), pp. 183–90.

• **Lustgarten, S. and Mendelowitz, A. I.** The Covariability of Industrial Concentration and Employment Fluctuations. *J. Bus.*, April 1979, *52*(2), pp. 291–304.

Marechal, M. Concurrentiepositie en industriebeleid. (Competitiveness and Industrial Policy. With English summary.) *Econ. Soc. Tijdschr.*, June 1979, *33*(3), pp. 313–24.

Marfels, C. The Impact of Foreign Trade on Concentration Levels: Empirical Findings for Canadian Manufacturing Industries and for the Steel Industries of Four Countries. *Antitrust Bull.*, Spring 1979, *24*(1), pp. 129–47.

Martinson, O. B. and Campbell, G. R. Social Network Analysis: Suggested Applications to Eco-

612 Public Policy Towards Monopoly and Competition

613 Public Utilities and Government Regulation of Other Industries in the Private Sector

1979, *17*(2), pp. 300–302.

Rock, S. M. Rate Base Methods and Realized Rates of Return: Comment. *Econ. Inquiry*, April 1979, *17*(2), pp. 297–99.

Strnad, J. F., II. State Economic Substantive Due Process: A Proposed Approach. *Yale Law J.*, June 1979, *88*(7), pp. 1487–1510.

Tapon, F. and Vander Weide, J. Effectiveness of Regulation in the Electric Utility Industry. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 180–89.

Uri, N. D. Regional Interfuel Substitution by Electric Utilities in the United States: A Reply. *J. Reg. Sci.*, May 1979, *19*(2), pp. 261–63.

Wald, H. P. Comment: Normative Premises in Regulatory Theory. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 126–29.

• **Wolf, C., Jr.** A Theory of Nonmarket Failure: Framework for Implementation Analysis. *J. Law Econ.*, April 1979, *22*(1), pp. 107–39.

615 Economics of Transportation

Apicella, V. The Evolution of the Italian Motorway System. *Rev. Econ. Cond. Italy*, September–November 1978, *32*(5–6), pp. 331–45.

Bayliss, B. T. Transport in the European Communities. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 28–43.

• **Beesley, M. E.** Competition and Supply in London Taxis. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 102–31.

• **Blomquist, G. C.** Value of Life Saving: Implications of Consumption Activity. *J. Polit. Econ.*, June 1979, *87*(3), pp. 540–58.

• **Brown, R. S.; Caves, D. W. and Christensen, L. R.** Modelling the Structure of Cost and Production for Multiproduct Firms. *Southern Econ. J.*, July 1979, *46*(1), pp. 256–73.

Caceres, L. R. On the Interregional Multiplier Effects of Changes in Transport Costs. *J. Reg. Sci.*, May 1979, *19*(2), pp. 191–99.

Chikkiah, M. Bonus to Railwaymen. *Econ. Aff.*, November 1978, *23*(11), pp. 421–24.

Díaz, J. A. Finding a Complete Description of All Efficient Solutions to a Multiobjective Transportation Problem. *Ekon.-Mat. Obzor*, 1979, *15*(1), pp. 62–73.

• **Due, J. F.** State Rail Plans and Programs. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 109–30.

• **Ekelund, R. B., Jr. and Price, E. O., III.** Sir Edwin Chadwick on Competition and the Social Control of Industry: Railroads. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 213–39.

• **Gwilliam, K. M.** Institutions and Objectives in Transport Policy. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 11–27.

Hale, C. W. Pricing of NASA Space Shuttle Transportation System Cargo. *Eng. Econ.*, Spring 1979, *24*(3), pp. 169–87.

• **Hansen, T.** The Relationship between Aggregate Costs, Employment and Cargo Capacity of the Norwegian Purse Seiner Fleet. *Scand. J. Econ.*, 1979, *81*(1), pp. 18–29.

Harrison, A. The Track Costs Issue. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 79–87.

• **Heggie, I. G.** Economics and the Road Programme. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 52–67.

Holtsberg, C. P. Effects of a New Feeder Road on Employment and Income Distribution: A Case Study of Thailand. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 237–49.

• **Jennings, A.** Determining a Global Sum for Taxation of Road Users. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 68–78.

Kidwell, D. S. and Trzcinka, C. A. The Risk Structure of Interest Rates and the Penn-Central Crisis. *J. Finance*, June 1979, *34*(3), pp. 751–60.

Kovshov, G. N. Transport in a System of Models for Perspective Planning of the Economy. *Matekon*, Winter 1978–79, *15*(2), pp. 3–38.

Lewis, W. D. and Newton, W. P. The Delta-C&S Merger: A Case Study in Airline Consolidation and Federal Regulation. *Bus. Hist. Rev.*, Summer 1979, *53*(2), pp. 161–79.

Out, H. Probleme künftiger Investitionsentscheidungen von Luftverkehrsgesellschaften im Personenlinienverkehr. (Problems of Future Investment Decisions in Air Transport. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 107–25.

• **Parks, R. W.** Durability, Maintenance and the Price of Used Assets. *Econ. Inquiry*, April 1979, *17*(2), pp. 197–217.

• **Pustay, M. W.** The Transatlantic Airline Market: Exploring the Myths of Excessive, Unfair, and Predatory Competition. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 47–63.

• **Rathery, A.** Some Recent Thinking on Freight Transport Pricing in France and Switzerland. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 44–51.

Rogers, K. and Hansen, S. Models of Individual Mode Change. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 105–10.

Sampson, G. P. An Analysis of the Sources of Inter-Country Differences in International Transport Costs. *Econ. Int.*, August–November 1978, *31*(3–4), pp. 234–47.

Schulze, G. Investigation and Review of Periodi-

cal Fluctuations in Port Turnovers. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 59–67.

• Sharp, C. D. The Environmental Impact of Transport and the Public Interest. *J. Transp. Econ. Policy*, January 1979, *13*(1), pp. 88–101.

620 Economics of Technological Change

621 Technological Change; Innovation; Research and Development

Abernathy, W. J. and Chakravarthy, B. S. Government Intervention and Innovation in Industry: A Policy Framework. *Sloan Manage. Rev.*, Spring 1979, *20*(3), pp. 3–18.

Al-Timimi, W. A. A Note on the Effect of Non-Fully Depreciated Capital Equipment on the Diffusion of New Technology. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 206–08.

Bigman, D. Classification of Technical Change: Diagrammatic Illustration. *Amer. Econ.*, Spring 1979, *23*(1), pp. 74–78.

• Clarke, R. J. Innovation in Australian High Technology Industries: Two Case Studies. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 89–102.

van Dam, A. Transfer of Technology Revisited. *L'Impresa*, 1979, *21*(1), pp. 47–50.

Fisher, F. M. and Temin, P. The Schumpeterian Hypothesis: Reply. *J. Polit. Econ.*, April 1979, *87*(2), pp. 386–89.

Gowda, M. V. S. Technology of Multinational Enterprises and Labour Absorption in Developing Countries. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 168–78.

Grabowski, R. The Implications of an Induced Innovation Model. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 723–34.

Graham, E. M. Technological Innovation, the Technology Gap, and U.S. Welfare. *Public Policy*, Spring 1979, *27*(2), pp. 185–201.

Green, D. W. Technology Transfer to the USSR: A Reply. *J. Compar. Econ.*, June 1979, *3*(2), pp. 178–80.

Haslam, J. An Appraisal of Microelectronic Technology. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 55–64.

Jeannet, J.-P. and Liander, B. Some Patterns in the Transfer of Technology within Multinational Corporations. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 108–18.

• Krugman, P. A Model of Innovation, Technology Transfer, and the World Distribution of Income. *J. Polit. Econ.*, April 1979, *87*(2), pp. 253–66.

• Laing, N. F. Technological Uncertainty and the Pure Theory of Optimum Growth. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 131–37.

Lim, D. Scale and Technology in Malaysian Manufacturing. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 128–36.

Long, F. The Role of Social Scientific Inquiry in Technology Transfer. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 261–74.

Nicoletti, B. Situazione e tendenze della tecnologia in Italia. (Situation and Trends in Technology in Italy. With English summary.) *L'Impresa*, 1979, *21*(1), pp. 51–62.

Oppenländer, K. H. Privatwirtschaftliche Aktivitäten und die Rolle des Staates im Innovationsprozess. (Business Activities and the Role of Government in the Process of Innovation. With English summary.) *Ifo-Studien*, 1977, *23*(1/2), pp. 7–32.

Ozdas, M. N. Vent'anni di collaborazione scientifica in seno alla Nato. (20 Years of Scientific Cooperation within NATO. With English summary.) *Mondo Aperto*, February 1979, *33*(1), pp. 13–22.

Parry, T. G. and Watson, J. F. Technology Flows and Foreign Investment in the Australian Manufacturing Sector. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 103–18.

Patel, A. S. and Shah, N. R. Impact of New Technology on the Availability of Calorie and Protein from Foodgrains. *Artha-Vikas*, January–June 1978, *14*(1), pp. 41–52.

Quinn, J. B. Technological Innovation, Entrepreneurship, and Strategy. *Sloan Manage. Rev.*, Spring 1979, *20*(3), pp. 19–30.

Rodriguez, C. A. A Comment on Fisher and Temin on the Schumpeterian Hypothesis. *J. Polit. Econ.*, April 1979, *87*(2), pp. 383–85.

Roessner, J. D. Federal Technology Policy: Innovation and Problem Solving in State and Local Governments. *Policy Anal.*, Spring 1979, *5*(2), pp. 181–200.

Sau, R. Technology, Growth and Transnational Corporation in India. *Indian Econ. J.*, January–March 1979, *26*(3), pp. 13–19.

• Schefold, B. Capital, Growth, and Definitions of Technical Progress. *Kyklos*, 1979, *32*(1/2), pp. 236–50.

Schüler, K. W. Auswirkungen des investitionsinduzierten technischen Fortschritts auf das gesamtwirtschaftliche Wachstum. (Investment Induced Technical Progress: Effects on Macroeconomic Growth. With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 43–105.

Stevens, R. W. The Corporate State: Its Manifestations and Containments: Comment. *J. Econ. Issues*, June 1979, *13*(2), pp. 573–78.

Swannack-Nunn, S. U.S. Business and the Transfer of Intermediate Technology: Agricultural

Equipment and the Developing Nations. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 119–24.

Toda, Y. Technology Transfer to the USSR: The Marginal-Productivity Differential and the Elasticity of Intra-Capital Substitution in Soviet Industry. *J. Compar. Econ.*, June 1979, *3*(2), pp. 181–94.

Walker, D. H. Mid-career Redundancy. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 43–54.

Weitzman, M. L. Technology Transfer to the USSR: An Econometric Analysis. *J. Compar. Econ.*, June 1979, *3*(2), pp. 167–77.

• **Wills, J.** Technical Change in the U.S. Primary Metals Industry. *J. Econometrics*, April 1979, *10*(1), pp. 85–98.

Yu, E. S. H. On the Theory of Interregional Wage Differentials and Technical Change. *J. Reg. Sci.*, May 1979, *19*(2), pp. 245–56.

Zind, R. G. A Note on the Measurement of Technical Bias in the U.S. Economy. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 301–04.

630 Industry Studies

Abernathy, W. J. and Chakravarthy, B. S. Government Intervention and Innovation in Industry: A Policy Framework. *Sloan Manage. Rev.*, Spring 1979, *20*(3), pp. 3–18.

Ambartsumov, A. On the Question of Equivalence in Exchange between Industry and Agriculture. *Prob. Econ.*, April 1979, *21*(12), pp. 39–45.

Eldridge, D. P. Gross Product by Industry, 1978. *Surv. Curr. Bus.*, April 1979, *59*(4), pp. 10–22.

Gheysens, L.; Regidor, B. and Vanthienen, L. Cost of Equity Capital of 185 Belgian Companies. *Tijdschrift Econ. Manage.*, 1979, *24*(1), pp. 55–87.

• **Nyitrai, V.** A Comparison of the Austrian and the Hungarian Industries. *Acta Oecon.*, 1977, *19*(3–4), pp. 361–77.

• **Personick, V. A.** Industry Output and Employment: BLS Projections to 1990. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 3–14.

Pillai, P. M. Multinational Corporations in Indian Industries: A Study of Its Changing Dimensions of Concentration and Diversification, 1964–74. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 179–98.

Rao, N. Role of Small Scale Industries in Indian Economy. *Econ. Aff.*, November 1978, *23*(11), pp. 401–08.

• **Sylos-Labini, P.** Industrial Pricing in the United Kingdom: Review Article. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 153–63.

Tharakan, P. K. M. and Vandoorne, M. Structure of Belgium's Comparative Advantage vis-à-vis the Developing World—A Tentative Classification of Industries. *Cah. Écon. Bruxelles*, 2nd Semester 1979, (82), pp. 213–34.

631 Industry Studies: Manufacturing

• **Agarwal, J. P.** Productivity of Foreign and Domestic Firms in Indian Industries. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 116–27.

Agodo, O. The Determinants of U.S. Private Manufacturing Investments in Africa. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 95–107.

Artus, J. R. Potential and Actual Output in Industrial Countries. *Finance Develop.*, June 1979, *16*(2), pp. 25–28.

Bailes, J. C.; Nielsen, J. F. and Wendell, S. Capital Budgeting in the Forest Products Industry. *Manage. Account.*, July 1979, *61*(1), pp. 46–51, 57.

Bloch, F. E. Labor Turnover in U.S. Manufacturing Industries. *J. Human Res.*, Spring 1979, *14*(2), pp. 236–46.

Carlesi, A. I piani di settore privilegiano la grande dimensione aziendale? (Do Sectorial Plans Favour the "Size" Aspect of Business Organization? With English summary.) *L'Impresa*, 1979, *21*(2), pp. 39–46.

• **Clarke, R. J.** Innovation in Australian High Technology Industries: Two Case Studies. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 89–102.

Debyser, C. De Belgische confectie-industrie. (The Belgian Ready-Made Textile Industry. With English summary.) *Econ. Soc. Tijdschr.*, April 1979, *33*(2), pp. 191–210.

• **Dickson, V. A.** Sub-optimal Capacity and Market Structure in Canadian Industry. *Southern Econ. J.*, July 1979, *46*(1), pp. 206–17.

• **Dixon, R. J.** Accounting for Variations in the Wage-Share in Australian Manufacturing: 1969–1977. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 192–99.

Drabble, J. H. Malayan Rubber Smallholdings in the Inter-War Period: Some Preliminary Findings. *Malayan Econ. Rev.*, October 1978, *23*(2), pp. 61–72.

Edwards, P. K. Strikes and Unorganised Conflict: Some Further Considerations. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 95–98.

Fabian, C.; Moga, S. and Şerban, R. Production Programming Problem Modellation to an Electric Steel Plant. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(4), pp. 87–107.

Forsyth, D. J. C. and Solomon, R. F. Restrictions on Foreign Ownership of Manufacturing Industry in a Less Developed Country: The Case of Ghana. *J. Devel. Areas*, April 1978, *12*(3), pp. 281–96.

Fowler, D. J. Transfer Prices and Profit Maxi-

scriptions. *J. Law Econ.*, April 1979, *22*(1), pp. 91–105.

Whitley, J. D. and Wilson, R. A. Trends and Cycles in Import Penetration in the UK: Comment. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 69–77.

• **Wills, J.** Technical Change in the U.S. Primary Metals Industry. *J. Econometrics*, April 1979, *10*(1), pp. 85–98.

632 Industry Studies: Extractive Industries

Al-Chalabi, F. and Al-Janabi, A. Optimum Production and Pricing Policies. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 229–58.

• **Appelbaum, E.** Testing Price Taking Behavior. *J. Econometrics*, February 1979, *9*(3), pp. 283–94.

Bărbatu, G. I., et al. Statistic Mathematical Modelling of Tetraethyl-Lead Susceptibility of Gasolines. *Econ. Computat. Cybern. Stud. Res.*, 1978, *12*(3), pp. 69–75.

Bataillie, M. Petroleum: de harde confrontatie moet nog komen. (Petroleum: Rough Confrontation in Sight? With English summary.) *Econ. Soc. Tijdschr.*, April 1979, *33*(2), pp. 141–58.

Bird, P. J. W. N. The Price Elasticity of Supply of Tin: 1961–1975. *Malayan Econ. Rev.*, October 1978, *23*(2), pp. 27–35.

• **Brett, J. M. and Goldberg, S. B.** Wildcat Strikes in Bituminous Coal Mining. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 465–83.

Friedmann, E. and Goodman, R. Prospects for Oil and Gas Production in the Developing World. *Finance Develop.*, June 1979, *16*(2), pp. 7–10.

• **Hwang, M.** A Model of Spatial Price Discrimination for the Pricing Schedule of Coal. *J. Reg. Sci.*, May 1979, *19*(2), pp. 231–43.

Jones, T. T. Oil Refining: An EEC and UK Problem of Excess Capacity. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 34–42.

Kassalow, E. M. Labor–Management Relations and the Coal Industry. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 23–27.

Kosobud, R. F. and Stokes, H. H. Oil Market Share Dynamics: A Markov Chain Analysis of Consumer and Producer Adjustments. *Empirical Econ.*, 1978, *3*(4), pp. 253–75.

Krümmel, H.-J. Bedingungen für die Schwankungen der Goldpreise im Spiegel der Marktberichterstattung. (Conditions Governing Gold Price Fluctuations as Reflected in Market Reports. With English summary.) *Kredit Kapital*, 1979, *12*(2), pp. 245–63.

Lev, B. The Impact of Accounting Regulation on the Stock Market: The Case of Oil and Gas Companies. *Accounting Rev.*, July 1979, *54*(3), pp. 485–503.

• **Northrup, H. R.; Wilson, J. T. and Rose, K. M.** The Twelve-Hour Shift in the Petroleum and Chemical Industries. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 312–26.

Pindyck, R. S. Some Long-Term Problems in OPEC Oil Pricing. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 259–72.

Thomas, H. Environmental Considerations in Federal Oil and Gas Leasing on Outer Continental Shelf. *Natural Res. J.*, April 1979, *19*(2), pp. 399–409.

633 Industry Studies: Distributive Trades

Beliaevskii, I. Socioeconomic Factors in the Development of Retail Trade Turnover. *Prob. Econ.*, February 1979, *21*(10), pp. 79–95.

• **Devine, D. G. and Marion, B. W.** The Influence of Consumer Price Information on Retail Pricing and Consumer Behavior. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 228–37.

Pacione, M. The In-Town Hypermarket: An Innovation in the Geography of Retailing. *Reg. Stud.*, 1979, *13*(1), pp. 15–24.

634 Industry Studies: Construction

• **Bingham, B. J.** Labor Requirements for College-Housing Construction. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 28–34.

• **Edmonds, G. A.** The Construction Industry in Developing Countries. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 355–69.

• **Olsen, J. G.** Labor and Material Requirements for New School Construction. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 38–41.

Rose, J. B. A Canadian View of Labor Relations in Construction. *Ind. Relat.*, Spring 1979, *18*(2), pp. 156–72.

635 Industry Studies: Services and Related Industries

• **Battalio, R. C., et al.** Residential Electricity Demand: An Experimental Study. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 180–89.

Brain, P. J. and Donath, S. A Corporate Model of the Australian Telecommunications Commission: Structure and Applications. *Australian J. Manage.*, April 1979, *4*(1), pp. 27–54.

Chamberlin, J. H. Direct Inclusion of Demand Functions in Linear Programming Forecasting Models. *Eng. Econ.*, Spring 1979, *24*(3), pp. 133–42.

• **Chang, L. and Fairley, W. B.** Pricing Automobile Insurance under Multivariate Classification of Risks: Additive versus Multiplicative. *J. Risk Ins.*,

640 Economic Capacity

641 Economic Capacity

• **Steindl, J.** Stagnation Theory and Stagnation Policy. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 1–14.

700 Agriculture; Natural Resources

710 Agriculture

Ambartsumov, A. On the Question of Equivalence in Exchange between Industry and Agriculture. *Prob. Econ.*, April 1979, *21*(12), pp. 39–45.

Bobylev, S. Agricultural Production and the Development of the Infrastructure. *Prob. Econ.*, April 1979, *21*(12), pp. 23–38.

Dovring, F. Underemployment, Slow Motion, and X-Efficiency. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 485–90.

Durgin, F. A., Jr. The Inefficiency of Soviet Agriculture versus the Efficiency of U.S. Agriculture: Reality or an Idol of the Mind? *ACES Bull.*, Fall–Winter 1978, *20*(3–4), pp. 1–36.

Feeny, D. Paddy, Princes, and Productivity: Irrigation and Thai Agricultural Development, 1900-1940. *Exploration Econ. Hist.*, April 1979, *16*(2), pp. 132–50.

Grabowski, R. The Implications of an Induced Innovation Model. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 723–34.

Isenman, P. and Singer, H. W. The Price-Disincentive Effect of Food Aid Revisited: A Reply. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 553–54.

Nghiep, L. T. and Hayami, Y. Mobilizing Slack Resources for Economic Development: The Summer-Fall Rearing Technology of Sericulture in Japan. *Exploration Econ. Hist.*, April 1979, *16*(2), pp. 163–81.

Patel, A. S. and Shah, N. R. Impact of New Technology on the Availability of Calorie and Protein from Foodgrains. *Artha-Vikas*, January–June 1978, *14*(1), pp. 41–52.

Sharma, R. D. Bank Credit and Agricultural Transformation in a Backward Region. *Indian Econ. J.*, October–December 1978, *26*(2), pp. 61–69.

Stryker, R. E. The World Bank and Agricultural Development: Food Production and Rural Poverty. *World Devel.*, March 1979, *7*(3), pp. 325–36.

Svedberg, P. The Price-Disincentive Effect of Food Aid Revisited: A Comment. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 549–52.

Swanson-Nunn, S. U.S. Business and the Transfer of Intermediate Technology: Agricultural Equipment and the Developing Nations. *J. Int. Bus. Stud.*, Winter 1978, *9*(3), pp. 119–24.

711 Agricultural Supply and Demand Analysis

Adams, J. and Bumb, B. Determinants of Agricultural Productivity in Rajasthan, India: The Impact of Inputs, Technology, and Context on Land Productivity. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 705–22.

• **Arzac, E. R. and Wilkinson, M.** A Quarterly Econometric Model of United States Livestock and Feed Grain Markets and Some of Its Policy Implications. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 297–308.

Ashturkar, B. W. Inter-District Variation in Production and Productivity of Cotton in Aurangabad Division (Maharashtra State) *Econ. Aff.*, November 1978, *23*(11), pp. 416–20.

Barnum, H. N. and Squire, L. An Econometric Application of the Theory of the Farm-Household. *J. Devel. Econ.*, March 1979, *6*(1), pp. 79–102.

• **Chambers, R. G. and Just, R. E.** A Critique of Exchange Rate Treatment in Agricultural Trade Models. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 249–57.

Griffith, G. R. and Meilke, K. D. Relationships among North American Fats and Oils Prices. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 335–41.

Hayami, Y. Trade Benefits to All: A Design of the Beef Import Liberalization in Japan. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 342–47.

• **Just, R. E. and Pope, R. D.** Production Function Estimation and Related Risk Considerations. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 276–84.

• **Overton, M.** Estimating Crop Yields from Probate Inventories: An Example from East Anglia, 1585–1735. *J. Econ. Hist.*, June 1979, *39*(2), pp. 363–78.

Severin, B. S. USSR: The All-Union and Moscow Collective Farm Market Price Indexes. *ACES Bull.*, Spring 1979, *21*(1), pp. 23–36.

Venkataramanan, L. S. and Prahaladachar, M. Study of Cropping Pattern Changes in Andhra Pradesh during 1950–1975. *Indian Econ. Rev.*, October 1978, *13*(2), pp. 117–42.

712 Agricultural Situation and Outlook

Booth, A. The Agricultural Surveys, 1970–75. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 45–68.

713 Agricultural Policy, Domestic and International

Adams, J. and Bumb, B. Determinants of Agricultural Productivity in Rajasthan, India: The Impact of Inputs, Technology, and Context on Land Productivity. *Econ. Develop. Cult.*

714 **Agricultural Finance**

715 **Agricultural Marketing and Agribusiness**

716 **Farm Management; Allocative Efficiency**

Bates, J. M.; Rayner, A. J. and Custance, P. R. Inflation and Farm Tractor Replacement in the U.S.: A Simulation Model. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 331–34.

• **Boehlje, M. and Griffin, S.** Financial Impacts of Government Support Price Programs. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 285–96.

Brzozowski, L. A Systems Approach to U.S. Wheat Policy. *Agr. Econ. Res.*, April 1979, *31*(2), pp. 1–9.

Fotheringham, A. S. and Reeds, L. G. An Application of Discriminant Analysis to Agricultural Land Use Prediction. *Econ. Geogr.*, April 1979, *55*(2), pp. 114–22.

Gebremeskel, T. and Shumway, C. R. Farm Planning and Calf Marketing Strategies for Risk Management: An Application of Linear Programming and Statistical Decision Theory. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 363–70.

Hayenga, M. L. Risk Management in Imperfect Markets: Commodity Procurement Strategy in the Food Manufacturing Sector. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 351–57.

• **Reichelderfer, K. H. and Bender, F. E.** Application of a Simulative Approach to Evaluating Alternative Methods for the Control of Agricultural Pests. *Amer. J. Agr. Econ.*, May 1979. *61*(2), pp. 258–67.

Shaw, R. P. A Note on Shifts in Parity, Poverty, and Sources of Farm Family Income in North America. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 645–52.

Singh, J.; Singh, N. and Singla, S. K. An Analysis of Farm Resource Use Pattern in Different Agroclimate Regions of the Punjab State. *Econ. Aff.*, November 1978, *23*(11), pp. 409–15.

Singh, R. and Grewal, S. S. Mechanisation of Indian Agriculture: The Case for Small and Marginal Farmers. *Econ. Aff.*, September–October 1978, *23*(9–10), pp. 329–36.

Thompson, W. A., et al. Evaluation of Alternative Forest System Management Policies: The Case of the Spruce Budworm in New Brunswick. *J. Environ. Econ. Manage.*, March 1979, *6*(1), pp. 51–68.

• **Truran, J. A. and Fox, R. W.** Resource Productivity of Landowners and Sharecroppers in the Cariri Region of Ceará, Brazil. *Land Econ.*, February 1979, *55*(1), pp. 93–107.

Venkataramanan, L. S. and Prahaladachar, M. Study of Cropping Pattern Changes in Andhra Pradesh during 1950–1975. *Indian Econ. Rev.*, October 1978, *13*(2), pp. 117–42.

• **Wu, C. C.** Price-Output Uncertainty and Allocative Efficiency: An Empirical Study of Small-Scale Farms. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 228–33.

717 **Land Reform and Land Use**

Adams, M. E. and Howell, J. Developing the Traditional Sector in the Sudan. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 505–18.

Aulakh, H. S. and Kainth, G. S. Structure of Agricultural Holdings in Amritsar District of Punjab. *Econ. Aff.*, September–October 1978, *23*(9–10), pp. 358–64.

• **Ault, D. E. and Rutman, G. L.** The Development of Individual Rights to Property in Tribal Africa. *J. Law Econ.*, April 1979, *22*(1), pp. 163–82.

Brahmbhatt, D. M. Working of a Farmers' Service Society in Gujarat (Case Study of a Tribal Area in Panchmahals District) *Artha-Vikas*, January–June 1978, *14*(1), pp. 63–78.

De Gregori, T. R. In Perpetuity: Some Reflections on Literary Views of Land and Other Forms of Property. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 225–36.

Fotheringham, A. S. and Reeds, L. G. An Application of Discriminant Analysis to Agricultural Land Use Prediction. *Econ. Geogr.*, April 1979, *55*(2), pp. 114–22.

Koo, A. Y. C. Monopoly and Monopsony Powers of Landlords in Developing Countries. *Land Econ.*, February 1979, *55*(1), pp. 128–34.

Lansford, R. R., et al. Water Trade-Off between Electric Energy and Agriculture in the Four Corners Area. *Water Resources Res.*, June 1979, *15*(3), pp. 529–38.

• **Livingstone, I. and Hazlewood, A.** The Analysis of Risk in Irrigation Projects in Developing Countries. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 21–35.

Lowdermilk, M. K., et al. Organizing Farmers to Improve Irrigation Water Delivery—The Problem and Prospects for Solutions in Pakistan. *Pakistan Econ. Soc. Rev.*, Autumn–Winter 1977, *15*(3–4), pp. 152–73.

Matanga, G. B. and Mariño, M. A. Irrigation Planning 1: Cropping Pattern. *Water Resources Res.*, June 1979, *15*(3), pp. 672–78.

Matanga, G. B. and Mariño, M. A. Irrigation Planning 2: Water Allocation for Leaching and Irrigation Purposes. *Water Resources Res.*, June 1979, *15*(3), pp. 679–83.

Mikhasiuk, I. The Economic Evaluation of Land and the Improvement of Rental Relationships in the USSR. *Prob. Econ.*, February 1979, *21*(10), pp. 65–78.

Plaxico, J. S. and Kletke, D. D. The Value of Unrealized Farm Land Capital Gains. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 327–30.

Salamon, L. M. The Time Dimension in Policy Evaluation: The Case of the New Deal Land-Reform Experiments. *Public Policy*, Spring

19(2), pp. 433–43.

Copithorne, L. Natural Resources and Regional Disparities: A Skeptical View. *Can. Public Policy*, Spring 1979, *5*(2), pp. 181–94.

Daneke, G. A. and Priscoli, J. D. Social Assessment and Resource Policy: Lessons from Water Planning. *Natural Res. J.*, April 1979, *19*(2), pp. 359–75.

Foster, H. S., Jr. and Beattie, B. R. Urban Residential Demand for Water in the United States. *Land Econ.*, February 1979, *55*(1), pp. 43–58.

• **Gilbert, R. J.** Optimal Depletion of an Uncertain Stock. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 47–57.

Grebenstein, C. R. and Field, B. C. Substituting for Water Inputs in U.S. Manufacturing. *Water Resources Res.*, April 1979, *15*(2), pp. 228–32.

Il'ev, L. Nature Conservation and Cost Accounting. *Prob. Econ.*, April 1979, *21*(12), pp. 3–9.

Jensen, A. L. Yield per Recruit of Whitefish (Coregonus Clupeaformis) in Northern Lake Michigan. *Mich. Academician*, Spring 1979, *11*(4), pp. 407–14.

Johnson, R. N. Oral Auction versus Sealed Bids: An Empirical Investigation. *Natural Res. J.*, April 1979, *19*(2), pp. 315–35.

Lackmann, C. G. Coastal States Have Control of Coastal Resources. *Natural Res. J.*, April 1979, *19*(2), pp. 393–97.

• **Lee, D. R.** Price Controls on Non-Renewable Resources: An Intertemporal Analysis. *Southern Econ. J.*, July 1979, *46*(1), pp. 179–88.

Loehman, E., et al. Cost Allocation for a Regional Wastewater Treatment System. *Water Resources Res.*, April 1979, *15*(2), pp. 193–202.

McConnell, K. E. and Sutinen, J. G. Bioeconomic Models of Marine Recreational Fishing. *J. Environ. Econ. Manage.*, June 1979, *6*(2), pp. 127–39.

McNamara, J. Federal Land Management Policy and the Drive to Develop an Alternate Energy Source, Geothermal Energy: Shall the Twain Ever Meet? *Natural Res. J.*, April 1979, *19*(2), pp. 261–74.

Plourde, C. Diagrammatic Representations of the Exploitation of Replenishable Natural Resources: Dynamic Iterations. *J. Environ. Econ. Manage.*, June 1979, *6*(2), pp. 119–26.

Ricci, P. F.; Glaser, E. R. and Laessig, R. E. A Model to Generate Rent Surfaces: Applications and Results for a Public Project. *Water Resources Res.*, June 1979, *15*(3), pp. 539–45.

Riley, J. G. and Scherer, C. R. Optimal Water Pricing and Storage with Cyclical Supply and Demand. *Water Resources Res.*, April 1979, *15*(2), pp. 233–39.

Silver, R. M. and Comeau, S. P. Geothermal Energy: Problems and Shortcomings of Classification of a Unique Resource—A Look at Problems with Water Law, with Particular Emphasis on New Mexico: Comment. *Natural Res. J.*, April 1979, *19*(2), pp. 445–59.

Thompson, W. A., et al. Evaluation of Alternative Forest System Management Policies: The Case of the Spruce Budworm in New Brunswick. *J. Environ. Econ. Manage.*, March 1979, *6*(1), pp. 51–68.

Yaron, D. A Model for the Analysis of Seasonal Aspects of Water Quality Control. *J. Environ. Econ. Manage.*, June 1979, *6*(2), pp. 140–51.

• **YoungDay, D. J. and Fight, R. D.** Natural Resource Policy: The Distributional Impact on Consumers of Changing Output Prices. *Land Econ.*, February 1979, *55*(1), pp. 11–27.

722 Conservation and Pollution

Allen, J. Anti Sealing as an Industry. *J. Polit. Econ.*, April 1979, *87*(2), pp. 423–28.

Beavis, B. Optimal Pollution in the Presence of Adjustment Costs. *J. Environ. Econ. Manage.*, March 1979, *6*(1), pp. 1–10.

Bishop, R. C. Endangered Species, Irreversibility, and Uncertainty: A Reply. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 376–79.

Feitel'man, N. Socioeconomic Problems of Ecological Equilibrium in Western Siberia. *Prob. Econ.*, April 1979, *21*(12), pp. 10–22.

Fischel, W. A. Determinants of Voting on Environmental Quality: A Study of a New Hampshire Pulp Mill Referendum. *J. Environ. Econ. Manage.*, June 1979, *6*(2), pp. 107–18.

• **Frech, H. E., III.** The Extended Coase Theorem and Long Run Equilibrium: The Nonequivalence of Liability Rules and Property Rights. *Econ. Inquiry*, April 1979, *17*(2), pp. 254–68.

• **Gianessi, L. P.; Peskin, H. M. and Wolff, E.** The Distributional Effects of Uniform Air Pollution Policy in the United States. *Quart. J. Econ.*, May 1979, *93*(2), pp. 281–301.

Goldfarb, W. The Hazards of our Hazardous Waste Policy. *Natural Res. J.*, April 1979, *19*(2), pp. 249–60.

Gorizontov, B. and Prokudin, V. Environmental Protection in Comecon Member Nations. *Prob. Econ.*, December 1978, *21*(8), pp. 24–40.

Henderson, J. V. Comment on Internalizing Pollution Externalities. *J. Urban Econ.*, July 1979, *6*(3), pp. 405–06.

Hochman, E. and Zilberman, D. Two-Goal Environmental Policy: An Integration of Micro and Macro ad hoc Decision Rules. *J. Environ. Econ. Manage.*, June 1979, *6*(2), pp. 152–74.

Il'ev, L. Nature Conservation and Cost Accounting. *Prob. Econ.*, April 1979, *21*(12), pp. 3–9.

723 Energy

in a Peasant Community: A Tanzanian Case Study. *J. Devel. Areas*, April 1978, *12*(3), pp. 315–22.

Friedmann, E. and Goodman, R. Prospects for Oil and Gas Production in the Developing World. *Finance Develop.*, June 1979, *16*(2), pp. 7–10.

Hogarty, T. F. Regional Interfuel Substitution by Electric Utilities in the United States: A Comment. *J. Reg. Sci.*, May 1979, *19*(2), pp. 257–59.

Jones, T. T. Oil Refining: An EEC and UK Problem of Excess Capacity. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 34–42.

• **Joskow, P. L. and Rozanski, G. A.** The Effects of Learning by Doing on Nuclear Plant Operating Reliability. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 161–68.

Kamerschen, D. R. Poverty, Power, and Pollution: Review Article. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 791–95.

Lansford, R. R., et al. Water Trade-Off between Electric Energy and Agriculture in the Four Corners Area. *Water Resources Res.*, June 1979, *15*(3), pp. 529–38.

McNamara, J. Federal Land Management Policy and the Drive to Develop an Alternate Energy Source, Geothermal Energy: Shall the Twain Ever Meet? *Natural Res. J.*, April 1979, *19*(2), pp. 261–74.

Mead, W. J. An Economic Analysis of Crude Oil Price Behavior in the 1970s. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 212–28.

Ortiz, R. G. The World Energy Outlook in the 1980s and the Role of OPEC. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 197–211.

• **Pindyck, R. S.** Interfuel Substitution and the Industrial Demand for Energy: An International Comparison. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 169–79.

Pindyck, R. S. Some Long-Term Problems in OPEC Oil Pricing. *J. Energy Devel.*, Spring 1979, *4*(2), pp. 259–72.

Povolný, M. Present Problems of Czechoslovakia's Fuel and Energy Base. *Czech. Econ. Digest.*, March 1979, (2), pp. 58–72.

Quirós Corradi, A. Energy and the Exercise of Power. *Foreign Aff.*, Summer 1979, *57*(5), pp. 1144–66.

Ricco, E. Anti-Nuclear Sentiment Makes Itself Felt. *Natural Res. J.*, April 1979, *19*(2), pp. 377–79.

Silver, R. M. and Comeau, S. P. Geothermal Energy: Problems and Shortcomings of Classification of a Unique Resource—A Look at Problems with Water Law, with Particular Emphasis on New Mexico: Comment. *Natural Res. J.*, April 1979, *19*(2), pp. 445–59.

Tatom, J. A. Energy Prices and Capital Formation: 1972-1977. *Fed. Res. Bank St. Louis Rev.*, May 1979, *61*(5), pp. 2–11.

Uri, N. D. Regional Interfuel Substitution by Electric Utilities in the United States: A Reply. *J. Reg. Sci.*, May 1979, *19*(2), pp. 261–63.

730 Economic Geography

731 Economic Geography

Griffith, D. A. Urban Dominance, Spatial Structure, and Spatial Dynamics: Some Theoretical Conjectures and Empirical Implications. *Econ. Geogr.*, April 1979, *55*(2), pp. 95–113.

Mathur, V. K. Some Unresolved Issues in the Location Theory of the Firm. *J. Urban Econ.*, July 1979, *6*(3), pp. 299–318.

Siraj, A. Industrial Land Use in Singapore: The Present Pattern and Some Future Needs. *Malayan Econ. Rev.*, October 1978, *23*(2), pp. 40–52.

800 Manpower; Labor; Population

810 Manpower Training and Allocation; Labor Force and Supply

811 Manpower Training and Development

• **Baumer, D. C.; Van Horn, C. E. and Marvel, M.** Explaining Benefit Distribution in CETA Programs. *J. Human Res.*, Spring 1979, *14*(2), pp. 171–96.

Ducray, G. Vocational Training Today: The Changing Relationship between Training and Employment. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 265–81.

Furtan, W. H. and Bollman, R. Returns to Operator Education in Saskatchewan Agriculture. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 318–21.

Guidi, G. Research and Management Training: Indications and Stimuli in the Present Economic Situation of Banks. *Rev. Econ. Cond. Italy*, September–November 1978, *32*(5–6), pp. 307–15.

Jamroz, D. Public Service Employment: Its Role in a Changing Economy. *Fed. Res. Bank New York Quart. Rev.*, Spring 1979, *4*(1), pp. 34–38.

van der Merwe, P. J. The Training of the Labour Force in South Africa. *Finance Trade Rev.*, December 1978, *13*(2), pp. 61–74.

812 Occupation

• **Blau, F. D. and Hendricks, W. E.** Occupational Segregation by Sex: Trends and Prospects. *J. Human Res.*, Spring 1979, *14*(2), pp. 197–210.

Davis, J. C. and Hubbard, C. M. On the Measure-

820 Labor Markets; Public Policy

821 Theory of Labor Markets and Leisure

Amano, M. Labor Migration and Wage Differentials in a Less Developed Country. (In Japanese. With English summary.) *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 73–82.

• Bardhan, P. K. Wages and Unemployment in a Poor Agrarian Economy: A Theoretical and Empirical Analysis. *J. Polit. Econ.*, June 1979, *87*(3), pp. 479–500.

• Barron, J. M. and Gilley, O. W. The Effect of Unemployment Insurance on the Search Process. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 363–66.

• Blattner, N. Hindernisse auf dem Weg zur Vollbeschätftigung. (Obstructions in the Road to Full Employment.) *Kyklos*, 1979, *32*(1/2), pp. 61–79.

• Brown, W. M. Employment vs. Unemployment Data as Macro-Policy Guides. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 70–82.

• Burkhauser, R. V. The Pension Acceptance Decision of Older Workers. *J. Human Res.*, Winter 1979, *14*(1), pp. 63–75.

• Canterbery, E. R. A Vita Theory of the Personal Income Distribution. *Southern Econ. J.*, July 1979, *46*(1), pp. 12–48.

Cooke, W. N. Turnover and Earnings: Some Empirical Evidence. *Ind. Relat.*, Spring 1979, *18*(2), pp. 220–26.

Corden, W. M. Wages, Inflation and Unemployment. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 69–70.

Cripps, F. Wages and Unemployment—A Non-Monetarist Rejoinder. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 175–77.

• Dewald, W. G. and Marchon, M. N. A Common Specification of Price, Output, and Unemployment Rate Responses to Demand Pressure and Import Prices in Six Industrial Countries. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 1–19.

• Duck, N. W. and Zis, G. The Natural Rate Hypothesis, Policy Rules, and Fixed Exchange Rates. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 36–46.

Fallis, G. Factor Substitution, Employment Density and Suburbanization. *J. Urban Econ.*, April 1979, *6*(2), pp. 156–75.

• Ferguson, B. L. and Gupta, K. L. On the Dynamics of Inflation and Unemployment in a Quantity Theory Framework. *Economica*, February 1979, *46*(181), pp. 51–59.

• Freebairn, J. W. and Withers, G. A. Welfare Effects of Salary Forecast Error in Professional Labour Markets. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 234–41.

• Gahlen, B. Preis- und Mengeneffekte in kurzund langfristiger Analyse. (The Effects of Price and Quantity in a Short- and Long-Term Analysis. *Kyklos*, 1979, *32*(1/2), pp. 162–76.

• Gerfin, H. Arbeitslosigkeitstypen und Einkommensverteilung in der "Neuen Makroökonomischen Theorie." (Types of Unemployment and Income Distribution in the "New Macroeconomics.") *Kyklos*, 1979, *32*(1/2), pp. 80–91.

Hall, R. E. A Theory of the Natural Unemployment Rate and the Duration of Employment. *J. Monet. Econ.*, April 1979, *5*(2), pp. 153–69.

• Holden, K. and Peel, D. A. The Augmented Phillips Curve: Some Empirical Results for Italy, Japan and the U.K. *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 30–36.

Horsman, A. A. Cripps on Wages and the Quantity Theory—A Monetarist Reply. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 164–74.

• Hu, S. C. Social Security, the Supply of Labor, and Capital Accumulation. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 274–83.

• Jonung, L. and Wadensjö, E. Wages and Prices in Sweden, 1912–1921: A Retrospective Test. *Scand. J. Econ.*, 1979, *81*(1), pp. 60–71.

• Kalachek, E. D.; Raines, F. Q. and Larson, D. The Determination of Labor Supply: A Dynamic Model. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 367–77.

• Krelle, W. The Way out of Unemployment: Change of Group Behaviour. *Kyklos*, 1979, *32*(1/2), pp. 92–128.

• Lucas, R. E. B. Sharing, Monitoring, and Incentives: Marshallian Misallocation Reassessed. *J. Polit. Econ.*, June 1979, *87*(3), pp. 501–21.

Mace, J. Internal Labour Markets for Engineers in British Industry. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 50–63.

• Markusen, J. R. Personal and Job Characteristics as Determinants of Employee-Firm Contract Structure. *Quart. J. Econ.*, May 1979, *93*(2), pp. 255–79.

McCafferty, S. Wage Dispersion and Job Search Behavior. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 213–17.

O'Connell, J. F. Multiple Job Holding and Marginal Tax Rates. *Nat. Tax J.*, March 1979, *32*(1), pp. 73–76.

• Park, U. K. Inter-Industry Effect of Cumulative Wage Indexation. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 138–48.

• Polemarchakis, H. M. Implicit Contracts and Employment Theory. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 97–108.

Robinson, J. Unwinding the Stagflation Puzzle. *J. Portfol. Manage.*, Summer 1979, *5*(4), pp. 5–10.

Seater, J. J. Job Search and Vacancy Contacts. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 411–19.

• **Smith, R. S.** Compensating Wage Differentials and Public Policy: A Review. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 339–52.

Spindler, Z. A. and Maki, D. More on the Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 147–64.

Torr, C. S. W. The Rate of Unemployment as an Indicator of Aggregate Demand Conditions. *S. Afr. J. Econ.*, March 1979, *47*(1), pp. 90–99.

• **Turnovsky, S. J.** Inflationary Expectations in a Two-Sector Model of Wage-Price Determination. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 1–19.

• **Ulph, D.** On Labour Supply and the Measurement of Inequality. *J. Econ. Theory*, December 1978, *19*(2), pp. 492–512.

• **Veendorp, E. C. H.** Robinson Crusoe, Friday, and the Competitive Price Mechanism: Some Implications of the Heterogeneity of Successive Labor Units. *Southern Econ. J.*, July 1979, *46*(1), pp. 1–11.

• **Wales, T. J. and Woodland, A. D.** Labour Supply and Progressive Taxes. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 83–95.

• **Weitzman, M. L.** Optimal Search for the Best Alternative. *Econometrica*, May 1979, *47*(3), pp. 641–54.

West, E. G. and Hafer, R. W. A Note on Education, Alienation, and the Production Function. *Amer. Econ.*, Spring 1979, *23*(1), pp. 53–54.

Yu, E. S. H. On the Theory of Interregional Wage Differentials and Technical Change. *J. Reg. Sci.*, May 1979, *19*(2), pp. 245–56.

• **Zabalza, A.** The Determinants of Teacher Supply. *Rev. Econ. Stud.*, January 1979, *46*(1), pp. 131–47.

822 Public Policy; Role of Government

Arndt, H. W. and Sundrum, R. M. Civil Service Compensation in Indonesia: A Comment. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 114–24.

• **Ashenfelter, O. and Smith, R. S.** Compliance with the Minimum Wage Law. *J. Polit. Econ.*, April 1979, *87*(2), pp. 333–50.

• **Barron, J. M. and Gilley, O. W.** The Effect of Unemployment Insurance on the Search Process. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 363–66.

Bashir, K. M. An Integrated System of Wages Statistics. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 371–84.

• **Benjamin, D. K. and Kochin, L. A.** Searching for an Explanation of Unemployment in Interwar Britain. *J. Polit. Econ.*, June 1979, *87*(3), pp. 441–78.

Bequele, A. and Freedman, D. H. Employment and Basic Needs: An Overview. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 315–29.

Berkowitz, M. Occupational Safety and Health. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 41–53.

• **Chelius, J. R.** Economic and Demographic Aspects of the Occupational Injury Problem. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 65–70.

Ginter, E. M. Communications and Cost-Benefit Aspects of Employee Safety. *Manage. Account.*, May 1979, *60*(11), pp. 24–26, 32.

Gray, C. Civil Service Compensation in Indonesia. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 85–113.

• **Halpin, T. C.** The Effect of Unemployment Insurance on Seasonal Fluctuations in Employment. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 353–62.

Haulot, A. The Staggering of Annual Holidays with Pay. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 191–204.

• **Inoue, K.** Structural Changes and Labour Market Policies in Japan. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 223–35.

Jamroz, D. Public Service Employment: Its Role in a Changing Economy. *Fed. Res. Bank New York Quart. Rev.*, Spring 1979, *4*(1), pp. 34–38.

Johnson, W. G.; Curington, W. P. and Cullinan, P. R. Income Security for the Disabled. *Ind. Relat.*, Spring 1979, *18*(2), pp. 173–83.

Millen, B. H. Providing Assistance to Displaced Workers. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 17–22.

Mrachkov, V. International Labour Conventions and Bulgarian Legislation. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 205–21.

Olmsted, B. Job Sharing: An Emerging Work-Style. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 283–97.

Osberg, L. Unemployment Insurance in Canada: A Review of the Recent Amendments. *Can. Public Policy*, Spring 1979, *5*(2), pp. 223–35.

Rudolf, T. Occupational Safety and Health in Poland: Legislation, Supervision and Promotion. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 179–90.

Sawyer, M. C. 'The Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain': A Comment. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 135–46.

• **Smith, R. S.** The Impact of OSHA Inspections on Manufacturing Injury Rates. *J. Human Res.*,

Spring 1979, *14*(2), pp. 145–70.

Solon, G. Labor Supply Effects of Extended Unemployment Benefits. *J. Human Res.*, Spring 1979, *14*(2), pp. 247–55.

Spindler, Z. A. and Maki, D. More on the Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 147–64.

Stamas, G. D. Long Hours and Premium Pay, May 1978. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 41–45.

Warren, R. S., Jr. and Strauss, R. P. A Mixed Logit Model of the Relationship between Unionization and Right-to-Work Legislation: Comment. *J. Polit. Econ.*, June 1979, *87*(3), pp. 648–55.

Williams, C. A., Jr. Meeting the Risk of Unemployment: Changing Societal Responses. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 12–24.

Witt, M. Dangerous Substances and the US Worker: Current Practice and Viewpoints. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 165–77.

823 Labor Mobility: National and International Migration

Amano, M. Labor Migration and Wage Differentials in a Less Developed Country. (In Japanese. With English summary.) *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 73–82.

Cebula, R. J. and Chapin, G. L. A Note on Interindustry Labor Movements. *Pakistan Econ. Soc. Rev.*, Autumn–Winter 1977, *15*(3–4), pp. 189–96.

Drudy, P. J. and Drudy, S. M. Population Mobility and Labour Supply in Rural Regions: North Norfolk and the Galway Gaeltacht. *Reg. Stud.*, 1979, *13*(1), pp. 91–99.

Dunn, L. F. Measuring the Value of Community. *J. Urban Econ.*, July 1979, *6*(3), pp. 371–82.

• **Eltis, D.** The British Contribution to the Nineteenth-Century Transatlantic Slave Trade. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 211–27.

Galenson, D. The Slave Trade to the English West Indies, 1673–1724. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 241–49.

Graves, P. E. and Linneman, P. D. Household Migration: Theoretical and Empirical Results. *J. Urban Econ.*, July 1979, *6*(3), pp. 383–404.

Hansen, N. Europe's Guest Worker Policies and Mexicans in the United States. *Growth Change*, April 1979, *10*(2), pp. 2–8.

• **Krauss, M. B. and Baumol, W. J.** Guest Workers and Income-Transfer Programs Financed by Host Governments. *Kyklos*, 1979, *32*(1/2), pp. 36–46.

Öberg, S. and Oscarsson, G. Regional Policy and Interregional Migration—Matching Jobs and Individuals on Local Labour Markets. *Reg. Stud.*, 1979, *13*(1), pp. 1–14.

• **Pashigian, B. P.** Occupational Licensing and the Interstate Mobility of Professionals. *J. Law Econ.*, April 1979, *22*(1), pp. 1–25.

Rubin, M.; Wagner, I. and Kamer, P. Industrial Migration: A Case Study of Destination by City-Surburban Origin within the New York Metropolitan Area. *Amer. Real Estate Urban Econ. Assoc. J.*, Winter 1978, *6*(4), pp. 417–37.

Varaiya, P.; Artle, R. and Humes, C., Jr. Division of Labor and the Distribution of Income. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 71–82.

Vislie, J. Division of Labour—Simon Revisited: A Comment. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 61–70.

824 Labor Market Studies, Wages, Employment

Arndt, H. W. and Sundrum, R. M. Civil Service Compensation in Indonesia: A Comment. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 114–24.

• **Ashenfelter, O. and Smith, R. S.** Compliance with the Minimum Wage Law. *J. Polit. Econ.*, April 1979, *87*(2), pp. 333–50.

Bagrova, I. Reflecting the Differentiation of Labor Resources in Socioeconomic Forecasting. *Prob. Econ.*, February 1979, *21*(10), pp. 23–34.

• **Balcer, Y. and Sahin, I.** Probabilistic Models for Pension Benefits. *J. Risk Ins.*, March 1979, *46*(1), pp. 99–123.

• **Benjamin, D. K. and Kochin, L. A.** Searching for an Explanation of Unemployment in Interwar Britain. *J. Polit. Econ.*, June 1979, *87*(3), pp. 441–78.

Bequele, A. and Freedman, D. H. Employment and Basic Needs: An Overview. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 315–29.

Bertram, G. W. and Percy, M. B. Real Wage Trends in Canada, 1900–26: Some Provisional Estimates. *Can. J. Econ.*, May 1979, *12*(2), pp. 299–312.

• **Bilson, J. F. O.** The "Vicious Circle" Hypothesis. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 1–37.

Bloch, F. E. and Smith, S. P. Human Capital and Labor Market Employment: Errata and Extension. *J. Human Res.*, Spring 1979, *14*(2), pp. 267–69.

Bloch, F. E. Labor Turnover in U.S. Manufacturing Industries. *J. Human Res.*, Spring 1979, *14*(2), pp. 236–46.

• **Borjas, G. J.** Job Satisfaction, Wages, and Unions. *J. Human Res.*, Winter 1979, *14*(1), pp. 21–40.

Policies in Japan. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 223–35.

Izraeli, D. N. and Gaier, K. Sex and Interoccupational Wage Differences in Israel. *Ind. Relat.*, Spring 1979, *18*(2), pp. 227–32.

Jamroz, D. Public Service Employment: Its Role in a Changing Economy. *Fed. Res. Bank New York Quart. Rev.*, Spring 1979, *4*(1), pp. 34–38.

Johnston, H. N. Real Wages and Unemployment. *Australian Econ. Rev.*, 1st Quarter 1979, (45), pp. 88–89.

Jones, E. B. and Long, J. E. Human Capital and Labor Market Employment: Additional Evidence for Women. *J. Human Res.*, Spring 1979, *14*(2), pp. 270–79.

• **Jonung, L. and Wadensjö, E.** Wages and Prices in Sweden, 1912–1921: A Retrospective Test. *Scand. J. Econ.*, 1979, *81*(1), pp. 60–71.

• **Kahn, L. M.** Unionism and Relative Wages: Direct and Indirect Effects. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 520–32.

• **Korns, A.** Cyclical Fluctuations in the Difference between the Payroll and Household Measures of Employment. *Surv. Curr. Bus.*, May 1979, *59*(5), pp. 14–44, 55.

Link, C. R. and Settle, R. F. Labor Supply Responses of Married Professional Nurses: New Evidence. *J. Human Res.*, Spring 1979, *14*(2), pp. 256–66.

• **Lustgarten, S. and Mendelowitz, A. I.** The Covariability of Industrial Concentration and Employment Fluctuations. *J. Bus.*, April 1979, *52*(2), pp. 291–304.

• **Mabry, B. D.** Bargaining Power and Changes in Fringe Benefits. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 25–36.

Mace, J. Internal Labour Markets for Engineers in British Industry. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 50–63.

Manevich, E. L. Manpower Shortages and Reserves. *Prob. Econ.*, December 1978, *21*(8), pp. 3–16.

Maslova, I. Effectiveness of Utilization of Labor Resources (Problems of Theory and Methodology) *Prob. Econ.*, February 1979, *21*(10), pp. 3–22.

• **Mayhew, K.** Economists and Strikes. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 1–19.

• **McAleese, D. and McDonald, D.** Employment Growth and the Development of Linkages in Foreign-Owned and Domestic Manufacturing Enterprises. *Oxford Bull. Econ. Statist.*, November 1978, *40*(4), pp. 321–39.

McCawley, P. and Tait, M. New Data on Employment in Manufacturing: 1970–1977. *Bull. Indonesian Econ. Stud.*, March 1979, *15*(1), pp. 125–36.

Medoff, J. L. Layoffs and Alternatives under Trade Unions in U.S. Manufacturing. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 380–95.

Meltz, N. M. and Stager, D. A. A. Trends in the Occupational Structure of Earnings in Canada, 1931–71. *Can. J. Econ.*, May 1979, *12*(2), pp. 312–15.

Morri, P. Eläkkeistä ja niiden rahoittamisesta. (On Pensions and the Financing of Pensions. With English summary.) *Kansant. Aikak.*, 1979, *75*(1), pp. 3–13.

• **Moy, J.** Recent Labor Market Trends in Nine Industrial Nations. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 8–16.

Müller-Heine, K. Struktuelle Arbeitslosigkeit—Abgrenzung und Faktoren. (Structural Unemployment—Delimitation and Factors. With English summary.) *Konjunkturpolitik*, 1979, *25*(1), pp. 20–46.

Munnell, A. H. The Impact of Inflation on Private Pensions. *New Eng. Econ. Rev.*, March/April 1979, pp. 18–31.

Munnell, A. H. The Troubled Future of Private Pension Plans. *J. Portfol. Manage.*, Spring 1979, *5*(3), pp. 35–42.

Oi, W. Y. Government Labor Policies and Equilibrium Unemployment Rates: A Comment on Clarkson and Meiners. *J. Monet. Econ.*, Supplement 1979, *10*, pp. 237–52.

Olmsted, B. Job Sharing: An Emerging Work-Style. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 283–97.

Osberg, L. Unemployment Insurance in Canada: A Review of the Recent Amendments. *Can. Public Policy*, Spring 1979, *5*(2), pp. 223–35.

• **Osterman, P.** Sex Discrimination in Professional Employment: A Case Study. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 451–64.

• **Personick, V. A.** Industry Output and Employment: BLS Projections to 1990. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 3–14.

• **Quinn, J. F.** Wage Differentials among Older Workers in the Public and Private Sectors. *J. Human Res.*, Winter 1979, *14*(1), pp. 41–62.

Riach, P. A. and Richards, G. M. The Lesson of the Cameron Experiment. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 21–35.

• **Robinson, O.** Part-time Employment in the European Community. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 299–314.

Sawyer, M. C. 'The Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain': A Comment. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 135–46.

Schwab, D. P. and Dyer, L. Correlates of Faculty

Ben-Porat, A. Political Parties and Democracy in the Histadrut. *Ind. Relat.*, Spring 1979, *18*(2), pp. 237–43.

England, J. How UCATT Revised Its Rules: An Anatomy of Organisational Change. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 1–18.

Epstein, E. C. Control and Co-optation of the Argentine Labor Movement. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 445–65.

• **Gamm, S.** The Election Base of National Union Executive Boards. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 295–311.

Garbarino, J. W. and Lawler, J. Faculty Union Activity in Higher Education—1978. *Ind. Relat.*, Spring 1979, *18*(2), pp. 244–46.

Hughes, J. J. and Brinkley, I. Attitudes and Expectations of Skill Centre Trainees towards Trade Unions and Trade Union Membership. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 64–69.

Kahn, L. M. Union Strength and Wage Inflation. *Ind. Relat.*, Spring 1979, *18*(2), pp. 144–55.

• **Kahn, L. M.** Unionism and Relative Wages: Direct and Indirect Effects. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 520–32.

Keeran, R. R. Communist Influence in the Automobile Industry, 1920–1933: Paving the Way for an Industrial Union. *Labor Hist.*, Spring 1979, *20*(2), pp. 189–225.

Kochan, T. A. How American Workers View Labor Unions. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 23–31.

Lee, D. J. Craft Unions and the Force of Tradition: The Case of Apprenticeship. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 34–49.

• **Leigh, D. E.** Unions and Nonwage Racial Discrimination. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 439–50.

Link, C. R. and Settle, R. F. Labor Supply Responses of Married Professional Nurses: New Evidence. *J. Human Res.*, Spring 1979, *14*(2), pp. 256–66.

Medoff, J. L. Layoffs and Alternatives under Trade Unions in U.S. Manufacturing. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 380–95.

Nash, A. Local 1707, CSAE: Facets of a Union in the Non-Profit Field. *Labor Hist.*, Spring 1979, *20*(2), pp. 256–77.

Ponak, A. M. and Fraser, C. R. P. Union Activists' Support for Joint Programs. *Ind. Relat.*, Spring 1979, *18*(2), pp. 197–209.

• **Smith, R. L. and Hopkins, A. H.** Public Employee Attitudes towards Unions. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 484–95.

Undy, R. The Electoral Influence of the Opposition Party in the A.U.E.W. Engineering Section, 1960–75. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 19–33.

Warren, R. S., Jr. and Strauss, R. P. A Mixed Logit Model of the Relationship between Unionization and Right-to-Work Legislation: Comment. *J. Polit. Econ.*, June 1979, *87*(3), pp. 648–55.

832 Collective Bargaining

Anderson, J. C. Bargaining Outcomes: An IR System Approach. *Ind. Relat.*, Spring 1979, *18*(2), pp. 127–43.

• **Brett, J. M. and Goldberg, S. B.** Wildcat Strikes in Bituminous Coal Mining. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 465–83.

Edwards, P. K. Strikes and Unorganised Conflict: Some Further Considerations. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 95–98.

• **Elliott, R. F. and Shelton, H. C.** A Wage Settlements Index for the United Kingdom, 1950–1975. *Oxford Bull. Econ. Statist.*, November 1978, *40*(4), pp. 303–19.

• **Gallagher, D. G. and Pegnetter, R.** Impasse Resolution under the Iowa Multistep Procedure. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 327–38.

Gallagher, D. G. and Hackleman, E. C. Isoquants, Collective Bargaining, and Public School Resource Allocation. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 160–65.

• **Mabry, B. D.** Bargaining Power and Changes in Fringe Benefits. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 25–36.

• **Mayhew, K.** Economists and Strikes. *Oxford Bull. Econ. Statist.*, February 1979, *41*(1), pp. 1–19.

Millen, B. H. Providing Assistance to Displaced Workers. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 17–22.

Millward, N. Research Note: The Strike Record of Foreign-Owned Manufacturing Plants in Great Britain. *Brit. J. Ind. Relat.*, March 1979, *17*(1), pp. 99–104.

Rose, J. B. A Canadian View of Labor Relations in Construction. *Ind. Relat.*, Spring 1979, *18*(2), pp. 156–72.

Subbarao, A. V. Impasse Choice and Wages in the Canadian Federal Service. *Ind. Relat.*, Spring 1979, *18*(2), pp. 233–36.

833 Labor–Management Relations

Bruyn, S. T. and Nicolaou-Smokovitis, L. A Theoretical Framework for Studying Worker Participation: The Psychosocial Contract. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 1–23.

Creigh, S. W. Work Stoppages in the Humberside Sub-Region: A Case Study in Regional Strike-Proneness. *Reg. Stud.*, 1979, *13*(1), pp. 73–89.

• **Davis, C. E. and West, J. P.** Attitudinal Differ-

840 Demographic Economics

841 Demographic Economics

Cons. Res., March 1979, *5*(4), pp. 284–87.

Knodel, J. and van de Walle, E. Lessons from the Past: Policy Implications of Historical Fertility Studies. *Population Devel. Rev.*, June 1979, *5*(2), pp. 217–45.

Leibenstein, H. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences." *J. Cons. Res.*, March 1979, *5*(4), pp. 288–90.

Lieberman, S. S. Prospects for Development and Population Growth in Iran. *Population Devel. Rev.*, June 1979, *5*(2), pp. 293–317.

Manevich, E. Reproduction of the Population and Utilization of Labor Resources. *Prob. Econ.*, February 1979, *21*(10), pp. 35–52.

Manton, K. G. and Poss, S. S. Effects of Dependency among Causes of Death for Cause Elimination Life Table Strategies. *Demography*, May 1979, *16*(2), pp. 313–27.

• **McClure, P.** Patterns of Migration in the Late Middle Ages: The Evidence of English Place-Name Surnames. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 167–82.

Meegama, S. A. Cholera Epidemics and Their Control in Ceylon. *Population Stud.*, March 1979, *33*(1), pp. 143–56.

Mehr, R. I. Changing Responsibility for Personal Risks and Societal Consequences: Premature Death and Old Age. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 1–11.

Mirer, T. W. The Wealth-Age Relation among the Aged. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 435–43.

Mosk, C. The Decline of Marital Fertility in Japan. *Population Stud.*, March 1979, *33*(1), pp. 19–38.

Murphy, P. E. and Staples, W. A. A Modernized Family Life Cycle. *J. Cons. Res.*, June 1979, *6*(1), pp. 12–22.

Namboodiri, N. K. Comment on "Fertility as Consumption:: Theories from the Behavioral Sciences." *J. Cons. Res.*, March 1979, *5*(4), pp. 291–92.

Narayanan, S. A Note on Internal Migration and Regional Growth Trends in Peninsular Malaysia, 1957–1970. *Malayan Econ. Rev.*, October 1978, *23*(2), pp. 53–60.

Preston, S. H. Urban Growth in Developing Countries: A Demographic Reappraisal. *Population Devel. Rev.*, June 1979, *5*(2), pp. 195–215.

Ram, R. and Schultz, T. W. Life Span, Health, Savings, and Productivity. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 399–421.

Rosenwaike, I. A New Evaluation of United States Census Data on the Extreme Aged. *Demography*, May 1979, *16*(2), pp. 279–88.

Rumford, J. and Greene, S. A Study of the Correlation Bias of Unrecorded Events by Two Independent Enumeration Systems. *Population Stud.*, March 1979, *33*(1), pp. 181–88.

Santow, G. Models of Contemporary Dutch Family Building. *Population Stud.*, March 1979, *33*(1), pp. 59–77.

Scanzoni, J. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences." *J. Cons. Res.*, March 1979, *5*(4), pp. 292–93.

Schutjer, W. A. Agricultural Development Policy and the Demographic Transition. *J. Devel. Areas*, April 1978, *12*(3), pp. 269–80.

Schwirian, P. M. and Schwirian, K. P. Finances and Life Satisfaction among Institutionalized Elderly. *Ohio State U. Bull. Bus. Res.*, January–February 1978, *54*(1–2), pp. 1–5.

Shapiro, D. and Mott, F. L. Labor Supply Behavior of Prospective and New Mothers. *Demography*, May 1979, *16*(2), pp. 199–208.

Singh, S. P. and Jain, S. K. Relevance of Malthus to the Population Problem of India. *Indian Econ. J.*, July–September 1978, *26*(1), pp. 213–28.

St. John-Jones, L. W. Emigration from Canada in the 1960s. *Population Stud.*, March 1979, *33*(1), pp. 115–24.

Stavig, G. R. The Impact of Population Growth on the Economy of Countries. *Econ. Develop. Cult. Change*, July 1979, *27*(4), pp. 735–50.

Thornton, A. Fertility and Income, Consumption Aspirations, and Child Quality Standards. *Demography*, May 1979, *16*(2), pp. 157–75.

Turchi, B. A. Comment on "Fertility as Consumption: Theories from the Behavioral Sciences." *J. Cons. Res.*, March 1979, 5(4), pp. 293–96.

Turpeinen, O. Fertility and Mortality in Finland since 1750. *Population Stud.*, March 1979, *33*(1), pp. 101–14.

Varaiya, P.; Artle, R. and Humes, C., Jr. Division of Labor and the Distribution of Income. *Reg. Sci. Urban Econ.*, February 1979, 9(1), pp. 71–82.

Vislie, J. Division of Labour—Simon Revisited: A Comment. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 61–70.

Weller, R. H. The Differential Attainment of Family Size Goals by Race. *Population Stud.*, March 1979, *33*(1), pp. 157–64.

Westoff, C. F. and Jones, E. F. The End of "Catholic" Fertility. *Demography*, May 1979, *16*(2), pp. 209–17.

Williams, J. D. and Sofranko, A. J. Motivations for the Immigration Component of Population Turnaround in Nonmetropolitan Areas. *Demography*, May 1979, *16*(2), pp. 239–55.

850 Human Capital

851 Human Capital

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 Welfare, Health, and Education

911 General Welfare Programs

An Empirical Note on Federal Regional Development Programs. *Growth Change*, April 1979, *10*(2), pp. 46–49.

Mehr, R. I. Changing Responsibility for Personal Risks and Societal Consequences: Premature Death and Old Age. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 1–11.

Moffitt, R. A. Cumulative Effective Tax Rates and Guarantees in Low-Income Transfer Programs. *J. Human Res.*, Winter 1979, *14*(1), pp. 122–29.

Murray, D. The Changing Incomes of the Aged in Australia. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 81–88.

Plotnick, R. and Smeeding, T. Poverty and Income Transfers: Past Trends and Future Prospects. *Public Policy*, Summer 1979, *27*(3), pp. 256–72.

Stone, D. A. Physicians as Gatekeepers: Illness Certification as a Rationing Device. *Public Policy*, Spring 1979, *27*(2), pp. 227–54.

Villars, C. Social Security Standards in the Council of Europe: The ILO Influence. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 343–54.

12 Economics of Education

Acland, H. Are Randomized Experiments the Cadillacs of Design? *Policy Anal.*, Spring 1979, *5*(2), pp. 223–41.

Aftab, K. Does Education Accelerate Economic Growth? An Assessment of McClelland's Hypothesis. *Pakistan Econ. Soc. Rev.*, Autumn-Winter 1977, *15*(3–4), pp. 127–51.

Clement, W. Zum Informationsgehalt der empirischen Bildungsökonomik. (How Informative are the Economics of Education Empirically? With English summary.) *Ifo-Studien*, 1978, *24*(1/2), pp. 1–19.

Clotfelter, C. T. Urban School Desegregation and Declines in White Enrollment: A Reexamination. *J. Urban Econ.*, July 1979, *6*(3), pp. 352–70.

• Field, A. J. Economic and Demographic Determinants of Educational Commitment: Massachusetts, 1855. *J. Econ. Hist.*, June 1979, *39*(2), pp. 439–59.

Gallagher, D. G. and Hackleman, E. C. Isoquants, Collective Bargaining, and Public School Resource Allocation. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 160–65.

Garbarino, J. W. and Lawler, J. Faculty Union Activity in Higher Education—1978. *Ind. Relat.*, Spring 1979, *18*(2), pp. 244–46.

Hirsch, B. T. Education and Differences in Post-school Human Investment: Comment. *Econ. Inquiry*, April 1979, *17*(2), pp. 310–14.

Kahn, M. A. and Sirageldin, I. Education, Income, and Fertility in Pakistan. *Econ. Develop. Cult. Change*, April 1979, *27*(3), pp. 519–47.

Knapp, C. B. Education and Differences in Post-school Human Investment: Reply. *Econ. Inquiry*, April 1979, *17*(2), pp. 315.

• Link, C. R. and Ratledge, E. C. Student Perceptions, I.Q. and Achievement. *J. Human Res.*, Winter 1979, *14*(1), pp. 98–111.

• McGuckin, R. H. and Winkler, D. R. University Resources in the Production of Education. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 242–48.

Noor, A. Education Lending for the Poor. *Finance Develop.*, June 1979, *16*(2), pp. 16–19.

Ohta, H. Language Barriers in Japan: An Economist's View. *Int. Soc. Sci. J.*, 1979, *31*(1), pp. 79–85.

• Strober, M. H. and Best, L. The Female/Male Salary Differential in Public Schools: Some Lessons from San Francisco, 1879. *Econ. Inquiry*, April 1979, *17*(2), pp. 218–36.

• Winegarden, C. R. Schooling and Income Distribution: Evidence from International Data. *Economica*, February 1979, *46*(181), pp. 83–87.

913 Economics of Health

Berkowitz, M. Occupational Safety and Health. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 41–53.

• Brown, D. M. and Lapan, H. E. The Supply of Physicians' Services. *Econ. Inquiry*, April 1979, *17*(2), pp. 269–79.

Bruce, C. J. The Calculation of Foregone Lifetime Earnings: Three Decisions of the Supreme Court of Canada. *Can. Public Policy*, Spring 1979, *5*(2), pp. 155–67.

Brunet, M. and Vinet, A. Le pouvoir professionnel dans la domaine de la santé et des services sociaux. (With English summary.) *Can. Public Policy*, Spring 1979, *5*(2), pp. 168–80.

Cantwell, J. R. Implications of Reimbursement Policies for the Location of Physicians. *Agr. Econ. Res.*, April 1979, *31*(2), pp. 25–35.

Ching, D. F. How to Isolate Medicare Costs. *Manage. Account.*, July 1979, *61*(1), pp. 27–30.

Hall, C. P., Jr. Medical Malpractice Problem. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 82–93.

Mach, E. P. Selected Issues on Health and Employment. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 133–45.

Manton, K. G. and Poss, S. S. Effects of Dependency among Causes of Death for Cause Elimination Life Table Strategies. *Demography*, May 1979, *16*(2), pp. 313–27.

Meegama, S. A. Cholera Epidemics and Their Control in Ceylon. *Population Stud.*, March 1979, *33*(1), pp. 143–56.

914 Economics of Poverty

915 Social Security (Public Superannuation and Survivors Benefits)

Myers, R. J. Expansion or Contraction of Social Security: Serious Side Effects. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 63–71.

Villars, C. Social Security Standards in the Council of Europe: The ILO Influence. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 343–54.

916 Economics of Crime

Kennett, D. The Distribution of Unpriced Public Goods: A Framework with Some Empirical Results for Police Services. *Amer. Econ.*, Spring 1979, *23*(1), pp. 22–27.

• **Mehay, S. L.** Intergovernmental Contracting for Municipal Police Services: An Empirical Analysis. *Land Econ.*, February 1979, *55*(1), pp. 59–72.

Meurer, E. M., Jr. Violent Crime Losses: Their Impact on the Victim and Society. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 54–62.

Rizzo, M. J. The Effect of Crime on Residential Rents and Property Values. *Amer. Econ.*, Spring 1979, *23*(1), pp. 16–21.

Sickles, R. C.; Schmidt, P. and Witte, A. D. An Application of the Simultaneous Tobit Model: A Study of the Determinants of Criminal Recidivism. *J. Econ. Bus.*, Spring/Summer 1979, *31*(3), pp. 166–71.

917 Economics of Minorities; Economics of Discrimination

Acland, H. Are Randomized Experiments the Cadillacs of Design? *Policy Anal.*, Spring 1979, *5*(2), pp. 223–41.

• **Blau, F. D. and Hendricks, W. E.** Occupational Segregation by Sex: Trends and Prospects. *J. Human Res.*, Spring 1979, *14*(2), pp. 197–210.

Burns, S. E. Credit Scoring and the ECOA: Applying the Effects Test. *Yale Law J.*, June 1979, *88*(7), pp. 1450–86.

Clotfelter, C. T. Urban School Desegregation and Declines in White Enrollment: A Reexamination. *J. Urban Econ.*, July 1979, *6*(3), pp. 352–70.

• **Corcoran, M. and Duncan, G. J.** Work History, Labor Force Attachment, and Earnings Differences between the Races and Sexes. *J. Human Res.*, Winter 1979, *14*(1), pp. 3–20.

Davis, J. C. and Hubbard, C. M. On the Measurement of Discrimination against Women. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 287–91.

DeCanio, S. J. Accumulation and Discrimination in the Postbellum South. *Exploration Econ. Hist.*, April 1979, *16*(2), pp. 182–206.

Ferber, M. A. and Lowry, H. M. The Sex Differential in Earnings: A Further Reappraisal: Reply. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 384–86.

Fullerton, D. J. and MacRae, C. D. FHA, Racial Discrimination and Urban Mortgages. *Amer. Real Estate Urban Econ. Assoc. J.*, Winter 1978, *6*(4), pp. 451–70.

Goldin, C. "N" Kinds of Freedom: An Introduction to the Issues. *Exploration Econ. Hist.*, January 1979, *16*(1), pp. 8–30.

Hansen, N. Europe's Guest Worker Policies and Mexicans in the United States. *Growth Change*, April 1979, *10*(2), pp. 2–8.

Izraeli, D. N. and Gaier, K. Sex and Interoccupational Wage Differences in Israel. *Ind. Relat.*, Spring 1979, *18*(2), pp. 227–32.

Job, B. C. The Black Labor Force during the 1975–78 Recovery. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 3–7.

• **Leigh, D. E.** Unions and Nonwage Racial Discrimination. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 439–50.

Levin, S. G. and Levin, S. L. Owner vs. Manager Control: Some Evidence on Discriminatory Employment Practices. *Rivista Int. Sci. Econ. Com.*, March 1979, *26*(3), pp. 257–73.

Niemi, A. W., Jr. Discrimination against Women Reconsidered. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 291–92.

• **Osterman, P.** Sex Discrimination in Professional Employment: A Case Study. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 451–64.

Reid, J. D., Jr. White Land, Black Labor, and Agricultural Stagnation: The Causes and Effects of Sharecropping in the Postbellum South. *Exploration Econ. Hist.*, January 1979, *16*(1), pp. 31–55.

Salamon, L. M. The Time Dimension in Policy Evaluation: The Case of the New Deal Land-Reform Experiments. *Public Policy*, Spring 1979, *27*(2), pp. 129–83.

Schafer, R. Racial Discrimination in the Boston Housing Market. *J. Urban Econ.*, April 1979, *6*(2), pp. 176–96.

Snyder, D. and Hudis, P. M. The Sex Differential in Earnings: A Further Reappraisal: Comment. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 378–84.

Stewart, J. B. and Hyclak, T. Ethnicity and Economic Opportunity. *Amer. J. Econ. Soc.*, July 1979, *38*(3), pp. 319–35.

• **Strober, M. H. and Best, L.** The Female/Male Salary Differential in Public Schools: Some Lessons from San Francisco, 1879. *Econ. Inquiry*, April 1979, *17*(2), pp. 218–36.

Temin, P. Freedom and Coercion: Notes on the Analysis of Debt Peonage in One Kind of Freedom. *Exploration Econ. Hist.*, January 1979,

920 Consumer Economics

921 Consumer Economics; Levels and Standards of Living

Nayyar, R. Rural Poverty in Bihar, 1961–62 to 1970–71. *J. Devel. Stud.*, January 1979, *15*(2), pp. 194–201.

Pekelman, D. and Sen, S. K. Measurement and Estimation of Conjoint Utility Functions. *J. Cons. Res.*, March 1979, *5*(4), pp. 263–71.

Pinstrup-Andersen, P. The Potential Impact of Changes in Income Distribution on Food Demand and Human Nutrition: Reply. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 382–83.

• Polinsky, A. M. and Ellwood, D. T. An Empirical Reconciliation of Micro and Grouped Estimates of the Demand for Housing. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 199–205.

Robson, A. J. and Scheffman, D. T. Urban Structure, Gas Prices, and the Demand for Transportation. *J. Urban Econ.*, April 1979, *6*(2), pp. 148–55.

Rutgaizer, V. and Saenko, O. Using the Rational Consumption Budget in Planning the Standard of Living. *Prob. Econ.*, January 1979, *21*(9), pp. 3–21.

Rutgaizer, V.; Koriagina, T. and Petrov, T. Workers' Well-Being and Time Budgets (Methodological Problems) *Prob. Econ.*, April 1979, *21*(12), pp. 65–84.

Salathe, L. An Empirical Comparison of Functional Forms for Engel Relationships. *Agr. Econ. Res.*, April 1979, *31*(2), pp. 10–15.

af Schultén, G. Konsumentskyddet och företagen. (Consumer Protection and the Firms. With English summary.) *Ekon. Samfundets Tidskr.*, 1979, *32*(1), pp. 19–32.

Schweig, B. B. Products Liability Problem. *Ann. Amer. Acad. Polit. Soc. Sci.*, May 1979, *443*, pp. 94–103.

• Shiba, T. The Personal Savings Function of Urban Worker Households in Japan. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 206–13.

Shimp, T. A. and Dyer, R. F. The Pain-Pill-Pleasure Model and Illicit Drug Consumption. *J. Cons. Res.*, June 1979, *6*(1), pp. 36–46.

• Skipper, H., Jr. The Privacy Implications of Insurers' Information Practices. *J. Risk Ins.*, March 1979, *46*(1), pp. 9–32.

Svendsen, K. E. Alternativ teori om socialistisk forbrug i lyset af sovjetisk og polsk debat. (An Alternative Theory of Socialist Consumption. With English summary.) *Nationaløkon. Tidsskr.*, 1978, *116*(3), pp. 293–325.

Tanner, J. E. Fiscal Policy and Consumer Behavior. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 317–21.

Teeters, N. H. Statement to Congress. *Fed. Res. Bull.*, June 1979, *65*(6), pp. 475–76.

Teeters, N. H. Statement to Congress. *Fed. Res. Bull.*, May 1979, *65*(5), pp. 399–403.

• Temin, P. The Origin of Compulsory Drug P scriptions. *J. Law Econ.*, April 1979, *22*(1), 91–105.

Thornton, A. Fertility and Income, Consumpt Aspirations, and Child Quality Standards. *mography*, May 1979, *16*(2), pp. 157–75.

Weicher, J. C. New Home Affordability, Equ and Housing Market Behavior. *Amer. Real tate Urban Econ. Assoc. J.*, Winter 1978, 6 pp. 395–416.

Wires, G. Handeln och Konsumentskydc (Trade and Consumer Protection. With Engl summary.) *Ekon. Samfundets Tidskr.*, 19 *32*(1), pp. 33–36.

• YoungDay, D. J. and Fight, R. D. Natural source Policy: The Distributional Impact Consumers of Changing Output Prices. *La Econ.*, February 1979, *55*(1), pp. 11–27.

930 Urban Economics

Brueckner, J. K. Spatial Majority Voting Equi ria and the Provision of Public Goods. *J. Url Econ.*, July 1979, *6*(3), pp. 338–51.

Swartz, R. D. Regional Shopping Malls: Streng and Weaknesses as Suburban Foci. *Mich. Aca mician*, Spring 1979, *11*(4), pp. 363–69.

931 Urban Economics and Public Policy

Anas, A. and Moses, L. N. Mode Choice, Tra port Structure and Urban Land Use. *J. Url Econ.*, April 1979, *6*(2), pp. 228–46.

Bradbury, J. H. Towards an Alternative Thed of Resource-Based Town Development Canada. *Econ. Geogr.*, April 1979, *55*(2), 147–66.

Currie, L. Is There an Urban Bias? Critique Michael Lipton's *Why Poor People Stay Po J. Econ. Stud.*, May 1979, *6*(1), pp. 86–105.

• Doebele, W. A.; Grimes, O. F., Jr. and Li J. F. Participation of Beneficiaries in Financ Urban Services: Valorization Charges in Bogo Colombia. *Land Econ.*, February 1979, *55* pp. 73–92.

Dunn, L. F. Measuring the Value of Commun *J. Urban Econ.*, July 1979, *6*(3), pp. 371–82.

Fallis, G. Factor Substitution, Employment D sity and Suburbanization. *J. Urban Econ.*, Ap 1979, *6*(2), pp. 156–75.

Foster, H. S., Jr. and Beattie, B. R. Urban Re dential Demand for Water in the United Stat *Land Econ.*, February 1979, *55*(1), pp. 43–

Gigris, B. N. Linking Rural and Urban Inc *Econ. Aff.*, September–October 1978, *23*(9–1 pp. 378–84.

Griffith, D. A. Urban Dominance, Spatial Str ture, and Spatial Dynamics: Some Theoreti

Efficiency versus Redistribution. *Policy Anal.*, Spring 1979, *5*(2), pp. 141–53.

Kawaller, I. G. Macroeconomic Determinants of Multifamily Housing Starts: A Descriptive Analysis. *Amer. Real Estate Urban Econ. Assoc. J.*, Spring 1979, *7*(1), pp. 45–62.

Kilroy, B. Housing Finance—Why So Privileged? *Lloyds Bank Rev.*, July 1979, (133), pp. 37–52.

Leigh-Pemberton, R. Banks, Building Societies and Personal Savings. *Nat. Westminster Bank Quart. Rev.*, May 1979, pp. 2–10.

Lovati, J. M. and Gilbert, R. A. Do Floating Ceilings Solve the Usury Rate Problem? *Fed. Res. Bank St. Louis Rev.*, April 1979, *61*(4), pp. 10–19.

McMillan, M. L. A Residential Interest Deduction as a Potential Approach to Taxing Imputed Rent. *Can. Public Policy*, Spring 1979, *5*(2), pp. 195–205.

Palmquist, R. B. Hedonic Price and Depreciation Indexes for Residential Housing: A Comment. *J. Urban Econ.*, April 1979, *6*(2), pp. 267–71.

• **Polinsky, A. M. and Ellwood, D. T.** An Empirical Reconciliation of Micro and Grouped Estimates of the Demand for Housing. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 199–205.

Reid, G. and Schafer, R. Comment on "Multifamily Housing Demand" *Amer. Real Estate Urban Econ. Assoc. J.*, Spring 1979, *7*(1), pp. 123–29.

Rosen, K. T. A Regional Model of Multifamily Housing Starts. *Amer. Real Estate Urban Econ. Assoc. J.*, Spring 1979, *7*(1), pp. 63–76.

Rosen, H. S. Owner Occupied Housing and the Federal Income Tax: Estimates and Simulations. *J. Urban Econ.*, April 1979, *6*(2), pp. 247–66.

Schafer, R. Racial Discrimination in the Boston Housing Market. *J. Urban Econ.*, April 1979, *6*(2), pp. 176–96.

Stegman, M. A. Multifamily Distress: A Case for National Action. *Amer. Real Estate Urban Econ. Assoc. J.*, Spring 1979, *7*(1), pp. 77–94.

Sternlieb, G. and Burchell, R. W. Multifamily Housing Demand: 1980–2000. *Amer. Real Estate Urban Econ. Assoc. J.*, Spring 1979, *7*(1), pp. 1–38.

Weicher, J. C. New Home Affordability, Equity, and Housing Market Behavior. *Amer. Real Estate Urban Econ. Assoc. J.*, Winter 1978, *6*(4), pp. 395–416.

Weinberg, D. H. and Atkinson, R. Place Attachment and the Decision to Search for Housing. *Growth Change*, April 1979, *10*(2), pp. 22–29.

Wofford, L. E. A Simulation Approach to the Appraisal of Income Producing Real Estate. *Amer. Real Estate Urban Econ. Assoc. J.*, Winter 1978, *6*(4), pp. 370–94.

933 Urban Transportation Economics

Anas, A. and Moses, L. N. Mode Choice, Transport Structure and Urban Land Use. *J. Urban Econ.*, April 1979, *6*(2), pp. 228–46.

Hensher, D. A. Formulating an Urban Passenger Transport Policy: A Re-Appraisal of Some Elements. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 119–30.

Kim, T. J. Alternative Transportation Modes in an Urban Land Use Model: A General Equilibrium Approach. *J. Urban Econ.*, April 1979, *6*(2), pp. 197–215.

Pipkin, J. S. and Ballou, D. P. A Model of Central City and Suburban Trip Termination Patterns. *J. Reg. Sci.*, May 1979, *19*(2), pp. 179–90.

Robson, A. J. and Scheffman, D. T. Urban Structure, Gas Prices, and the Demand for Transportation. *J. Urban Econ.*, April 1979, *6*(2), pp. 148–55.

Rogers, K. and Hansen, S. Models of Individual Mode Change. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 105–10.

940 Regional Economics

941 Regional Economics

Ashcroft, B. and Ingham, K. P. D. Company Adaptation and the Response to Regional Policy: A Comparative Analysis of MNC Subsidiaries and Indigenous Companies. *Reg. Stud.*, 1979, *13*(1), pp. 25–37.

• **Barnard, J. R. and Ballman, R. J., Jr.** Tests of Regional Intersectoral Flows Analysis Multipliers. *J. Reg. Sci.*, May 1979, *19*(2), pp. 201–15.

Baxter, M. J. The Application of Logit Regression Analysis to Production-Constrained Gravity Models. *J. Reg. Sci.*, May 1979, *19*(2), pp. 171–77.

Bradbury, J. H. Towards an Alternative Theory of Resource-Based Town Development in Canada. *Econ. Geogr.*, April 1979, *55*(2), pp. 147–66.

Caceres, L. R. On the Interregional Multiplier Effects of Changes in Transport Costs. *J. Reg. Sci.*, May 1979, *19*(2), pp. 191–99.

Copithorne, L. Natural Resources and Regional Disparities: A Skeptical View. *Can. Public Policy*, Spring 1979, *5*(2), pp. 181–94.

Creigh, S. W. Work Stoppages in the Humberside Sub-Region: A Case Study in Regional Strike-Proneness. *Reg. Stud.*, 1979, *13*(1), pp. 73–89.

• **De Rooy, J.** Are There Decreasing Returns to Income in the United States? *Quart. Rev. Econ.*

Assoc. J., Winter 1978, 6(4), pp. 417–37.

• **Schweizer, U.** A Spatial Version of the Nonsubstitution Theorem. *J. Econ. Theory*, December 1978, *19*(2), pp. 307–20.

Swartz, R. D. Regional Shopping Malls: Strengths and Weaknesses as Suburban Foci. *Mich. Academician*, Spring 1979, *11*(4), pp. 363–69.

Takayama, T. and Hashimoto, H. An Expository Critique of the Takayama-Judge Models of Interregional and Intertemporal Market Equilibrium: A Rejoinder. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 97–104.

Varaiya, P.; Artle, R. and Humes, C., Jr. Division of Labor and the Distribution of Income. *Reg. Sci. Urban Econ.*, February 1979, 9(1), pp. 71–82.

Vislie, J. Division of Labour—Simon Revisited: A Comment. *Reg. Sci. Urban Econ.*, February 1979, *9*(1), pp. 61–70.

Vitebskii, R. Regional Differences in Expenditures on the Infrastructure. *Prob. Econ.*, March 1979, *21*(11), pp. 40–57.

• **Weber, R. E.** A Synthesis of Methods Proposed for Estimating Gross State Product. *J. Reg. Sci.*, May 1979, *19*(2), pp. 217–30.

Yu, E. S. H. On the Theory of Interregional Wage Differentials and Technical Change. *J. Reg. Sci.*, May 1979, *19*(2), pp. 245–56.

Selected Abstracts

Editor's Note

These abstracts are prepared by the author of each article. Each journal editor, where we have an abstracting agreement, is responsible for instructing the author according to our style sheet. These editors are responsible, additionally, for sending these abstracts to the *Journal of Economic Literature*. Only a minimal amount of copy editing is done on these abstracts; thus the reader should turn to the author of the abstract and not this journal if an error of fact or phrasing arises.

NOTE: the limit of 100 words for abstracts remains in effect.

000 General Economics; Theory; History; Systems

010 GENERAL ECONOMICS

011 General Economics

Cochran, K. P.—Why a Social Economics

The presidential address before the Association for Social Economics attempts to define the identifying trait of a Social Economist: he (she) should reject the market place as the final arbiter of social values and accept some responsibility for defining and developing those social values, for helping guide society and political authorities toward social goals. The guiding principle of Social Economics, therefore, is the belief that economic theory is concentrated thought and analysis directed toward ameliorating contemporary social-economic problems. It is the central thesis of this article that a Social Economist has a moral duty to assume an openly normative, value-directed position of leadership to define and work for what is seen as a better social economy. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 121–32. North Texas State University, Denton.

Frey, R. L. and Hill, W.—Volkswirtschaftslehre und Betriebswirtschaftslehre: Entwicklungstendenzen und Kooperationsmöglichkeiten (Economics and Business Administration: Trends and Possibilities of Cooperation)

Both economics and business administration aim at describing, explaining and influencing economic processes and structures—though at different levels. The authors first survey the main trends of the two disciplines in recent decades. A main feature of economics is that it transfers its own techniques to noneconomic phenomena (*e.g.*, politics), whereas business administration has adopted a great many of the techniques and knowledge of other disciplines (*e.g.*, psychology). In a second section the authors examine the possibilities of cooperation between economics and business administration, using as examples quality of life and health economics. *Kyklos*, 1979, *32*(1/2), pp. 451–74 (German). University of Basle, Switzerland.

McKenzie, R. B.—The Non-Rational Domain and the Limits of Economic Analysis

This article explores the non-rational domain of behavior and, thereby, the limitations of economic analysis. It suggests that contrary to a thesis developed by George Stigler and Gary Becker, "tastes do matter" in determining the boundaries of economics as a science. Furthermore, it is argued that an assumption of complete rationality of behavior is the foundation of a completely deterministic theory of behavior, similar to that articulated by B. F. Skinner, in which choice and freedom is denied. *Southern Econ. J.*, July 1979, *46*(1), pp. 145–57. Clemson University, South Carolina.

Widmaier, H. P.—Zur Theorie der Evolution sozialer Bedürfnisse (On the Theory of the Evolution of Social Needs)

The paper is introduced with the question of why economists have failed in the course of the history of economic thought to develop

a consistent theory of social policy. Then, a theory of social needs is presented. The typology of social needs is structured along the lines of: (a) the origin of social needs in the course of development, (b) social needs as a consequence of economic development, and (c) social needs as derived from the long-term development, of the capitalist power structure. Social needs are derived from the production conditions and from a social demand point of view, articulated in the political sphere. *Kyklos*, 1979, *32*(1/2), pp. 350–62 (German). University of Regensburg, West Germany.

020 General Economic Theory

d'Aspremont C. and Drèze J. H.—On the Stability of Dynamic Processes in Economic Theory

The notion of stability in the sense of A. Lyapunov is applied to economic dynamic processes of the D. Champsaur–Jacques H. Drèze–C. Henry type. A recent result of M. Maschler and B. Peleg, giving a sufficient condition for this kind of stability, is applied to both continuous and discrete economic processes. Finally an analogous necessary condition for the stability of such processes is given. *Econometrica*, May 1979, *47*(3), pp. 733–37. CORE, Louvain-la-Neuve, Belgium.

Boland, L. A. And Newman, G.—On the Role of Knowledge in Economic Theory

This paper offers a critique of recent criticisms of neoclassical theory, which have argued that Austrian theory is superior. Specifically, this paper is concerned with the arguments of Ludwig M. Lachmann and G. L. S. Shackle and with Lachmann's overriding view that, since the theories of Shackle and the Austrians give a more strategic role to knowledge and its limitations, they possess a clear-cut advantage over neoclassical doctrine in explaining economic phenomena. It is argued that their arguments are not sufficient for either the rejection of neoclassical doctrine or the resurrection of Austrian economics. Rather, what Lachmann's essay reveals is that neither of the views under discussion are explanatorily complete with respect to knowledge. Specifically, neither provides a satisfactory solution to what might be termed "the problem of knowledge dynamics"—the problem of defining an explicit and non-trivial role for changes in knowledge to play in the *explanation* of the transition between short-run (temporary) equilibria and long-run (general) equilibrium. *Australian Econ. Pap.*, June 1979, *18*(32) pp. 71–80. Simon Fraser University, Burnaby, British Columbia; University of Toronto.

021 General Equilibrium Theory

Cass, D.; Okuno, M. and Zilcha, I.—The Role of Money in Supporting the Pareto Optimality of Competitive Equilibrium in Consumption-Loan Type Models

This paper investigates the robustness of the two central popositions one can adduce from the basic version of Paul A. Samuelson's celebrated consumption-loan model with fiat money. It is shown that if that model is simply extended to encompass heterogeneous households, then it is no longer necessarily true either (i) that the existence of monetary equilibrium depends on the *lack* of Pareto optimality of nonmonetary equilibrium or (ii) that there is *any* competitive equilibrium monetary or nonmonetary) with the property of Pareto optimality. Additional counterexamples establish that the mere existence of fiat money may also not be enough to permit the attainment of Pareto optimality when households' tastes exhibit either nonmonotonicity or nonconvexity. *J. Econ. Theory*, Feb. 1979, *20*(1), pp. 41–80. California Institute of Technology, Pasadena, and University of Pennsylvania; Yokohama National University; Tel-Aviv University.

Gale, D. M.—The Core of a Monetary Economy without Trust

The Arrow–Debreu model implicitly assumes that agents trust one another. In the absence of trust—formalized by the concept of the "sequential core"—the economy has a sequential structure, even if markets are complete at the first date. The use of money (securities) can replace trust. In a large economy money acts as a store of value. The absence of trust provides a rationale for money. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 456–91. London School of Economics.

Hart, O. D.—Monopolistic Competition in a Large Economy with Differentiated Commodities

A firm that supplies a large part of aggregate output possesses monopoly power. A tenet of the Chamberlinian theory of monopolistic competition is that a firm also possesses monopoly power if it supplies a commodity with unique characteristics. The author demonstrates that this is not the case. He shows that, in an economy in which each firm is small relative to the aggregate, the elasticity of demand for a firm's product is almost infinite whether or not other firms are producing similar products. A monopolistically competitive equilibrium is also proved to be approximately Pareto optimal under these conditions. *Rev. Econ. Stud.*, Jan. 1979, *46*(1) pp. 1–30. Churchill College, University of Cambridge.

Kalai, E.; Postlewaite, A. and Roberts, J.—A Group Incentive Compatible Mechanism Yielding Core Allocations

A large body of recent literature has concerned the design of resource allocation mechanisms that have desirable performance even under strategic behavior by the individuals participating in the mechanism. This work has concentrated on individual incentive compatibility as modelled by the Nash equilibrium. Here we present a mechanism that performs well even when we allow groups to coordinate their strategies. The solution concept we employ is R. Aumann's strong equilibrium, which is a strengthening of the usual Nash equilibrium. We show equivalence of the strong equilibrium allocations resulting from the strategic form game induced by this mechanism and the core of the underlying economy. *J. Econ. Theory*, Feb. 1979, *20*(1), pp. 13–22. Northwestern University; University of Illinois, Urbana; Northwestern University.

Makowski, L.—Value Theory with Personalized Trading

This paper extends existing general equilibrium theory to describe the competitive production and allocation of "personalized commodities": commodities with only one potential buyer or seller. The basic, novel theoretic possibility introduced into value theory with the introduction of personalized trading—the trading of personalized commodities—is that price discrimination over quantity may occur under perfect competition. Theorems on the existence and optimality of competitive equilibria under discriminatory pricing are proved. *J. Econ. Theory*, April 1979, *20*(2), pp. 194–212. University of Cambridge.

Novshek, W. and Sonnenschein, H. F.—Cournot and Walras Equilibrium

We present a formalization of perfectly competitive equilibrium (Walras equilibrium) as a limit of imperfectly competitive equilibrium (Cournot equilibrium). Firms enter when it is profitable, and entry is a driving force in the explanation of value. The presence of fixed costs places a limit on the number of active firms. When efficient scale is small relative to the size of the market, firms have little effect on price when confined to the range in which they make non-negative profit. The analysis leads to a description of perfectly competitive equilibrium, which differs in substance from the one offered by existing formal competitive theory. *J. Econ. Theory*. Dec. 1978, *19*(2), pp. 223–66. Northwestern University and Princeton University; Princeton University.

Radner, R.—Rational Expectations Equilibrium: Generic Existence and the Information Revealed by Prices

When traders come to a market with different information about the items to be traded, the resulting market prices may reveal to some traders information originally available only to others. The possibility for such inferences rests upon traders having "models" or "expectations" of how equilibrium prices are related to initial information. This relationship is endogenous, which motivates the term "rational expectations equilibrium." This paper shows that, in a particular model of asset trading, if the number of alternative states of initial information is finite then, generically, rational expectations equilibria exist that reveal to all traders all of their initial information. *Econometrica*, May 1979, *47*(3), pp. 655–78. Harvard University.

Rotheim, R. J.—On the Nature of Production and Contracts in an Arrow–Debreu Economy

In an equilibrium model where risks are assumed, agents tender offers via contingency contracts. From such a model the following can be proved: (1) if each future event has an assignable probability, then there must exist a probability estimate assigned to that state corresponding to zero production for every commodity set; and (2) if each agent acts rationally, then the only tenable state is the one characterized by the first proposition, *i.e.*, a state of zero aggregate production. In other words, this paper attempts to prove that in an economy where risk and contingency contracts prevail, production cannot exist. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 120–26. Franklin and Marshall College, Lancaster, Pennsylvania.

Sakai, Y.—A Simple General Equilibrium Model of Production: Comparative Statics with Price Uncertainty

This paper examines the possibility of extending the basic theorems of the risk-free, two-sector, two-factor, constant returns to scale model of production to cover situations with price uncertainty. In carrying out compartive statics analysis, we highlight the dual relationship between factor endowments and commodity outputs on the one hand and factor prices and commodity price parameters on the other. We show that the Rybczynski and Stolper–Samuelson theorems may fail to hold for certain cases, while the factor price equalization theorem cannot carry over to the stochastic world, provided firms in the uncertainty sector exhibit decreasing absolute risk aversion. The implications of uniform (relative) changes in both factor endowments and in both (expected) commodity prices are also explored. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 287–306. University of Tsukuba, Ibaraki, Japan.

022 Microeconomic Theory

Anderson, R. K.; Porter, P. K. and Maurice, S. C.—The Economics of Consumer-Managed Firms

This paper investigates the basic theoretical framework for the analysis of the consumer-managed firm. We show that consumer-owned, consumer-managed firms, organized to maximize utility of each member will reach the same long-run equilibrium as the perfectly competitive firm if cooperatives can freely determine the number of members. We also derive several welfare implications of the model. *Southern Econ. J.*, July 1979, *46*(1), pp. 119–30. Texas A & M University, College Station; Southern Methodist University; Dallas; Texas A & M University, College Station.

Applebaum, E.—Testing Price Taking Behavior

The purpose of this paper is to present an empirically implementable technique for the analysis of noncompetitive behavior in production. We provide a statistical test for the price-taking behavior hypothesis, which can be used to distinguish among different market structures. We apply this approach to the U.S. crude petroleum and natural gas industry and find that the price-taking behavior hypothesis is not appropriate for this industry. *J. Econometrics*, Feb. 1979, *9*(3), pp. 283–94. University of Western Ontario, London, Canada.

Auerbach, A. J.—Inflation and the Choice of Asset Life

This paper considers the choice of capital durability by competitive firms subject to a corporate income tax. We find that, with a positive rate of inflation, a historic cost depreciation rule biases the choice of asset life toward greater durability and lowers the market valuation of a firm's capital assets. Extending the familiar one-sector monetary growth model to incorporate this behavior, we explore the general equilibrium effects that the failure to index depreciation allowances for inflation may have on the long-run characteristics of the economy, including the capital–labor ratio and the rate of return received by investors. *J. Polit. Econ.*, June 1979, *87*(3), pp. 621–38. Harvard University.

Barnett, W. A.—The Joint Allocation of Leisure and Goods Expenditure

Conventionally, labor supply modeling has been dichotomized from consumption expenditure allocation. We estimate a model unifying both aspects of the consumer's decision prob-

lem and test for the two-stage decision implied by the conventional dichotomy. We investigate the gains from joint modeling. We use a version of the Rotterdam Model recently shown to be derivable at the aggregate level under weaker assumptions than those needed to derive other models at the aggregate level. Our results are not subject to the restrictiveness imputed to earlier uses of versions of the Rotterdam Model, and our approach does not imply or require aggregate intergrability. *Econometrica*, May 1979, *47*(3), pp. 539–63. Board of Governors of the Federal Reserve System, Washington, D.C.

Barnett, W. A.—Theoretical Foundations for the Rotterdam Model

Very little is known about aggregate demand systems under plausible assumptions. Probability limits of systems of stochastic differential equations are taken to obtain a new aggregate theoretical construct (not an ordinary aggregate demand system) about which much is known under weak assumptions. A variant of the Rotterdam Model can provide a Taylor series approximation to this construct. The results impute meaning to that variant throughout its macroparameter space. Previously, the Rotterdam Model had been linked directly with theory only on a degenerate Lebesgue measure zero parameter space sub-set on which the model is intergrable to a Cobb-Douglas community utility function. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 109–30. Board of Governors of the Federal Reserve System, Washington, D.C.

Berndt, E. R. and Wood, D. O.—Engineering Econometric Interpretations of Energy-Capital Complementarity

This paper provides analytical and empirical foundations for integrating the Hicks-Allen economic notion of energy-capital complementarity with the process engineering-technological view of energy-capital substitutability. A related analytical framework is also employed to reconcile the seemingly disparate econometric evidence. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 342–54. University of British Columbia, Vancouver; Massachusetts Institute of Technology.

Blackorby, C. and Diewert, W. E.—Expenditure Functions, Local Duality, and Second Order Approximations

After demonstrating that it is difficult to ensure the existence everywhere of a continuous direct utility function by placing restrictions on the corresponding expenditure function, we provide local regularity conditions, which are sufficient to imply the existence of a continuous "local" direct utility function. These conditions are also sufficient to imply the existence of a continuous "local" indirect utility function and a continuous "local" distance function, which can in turn be used to construct a "local" direct utility function, which is the same as the one derived directly from the expenditure function. Finally, we show that if two expenditure functions are second order approximations to each other at a point, then their respective derived direct utility functions are also second order approximations to each other. *Econometrica*, May 1979, *47*(3), pp. 579–601. University of British Columbia, Vancouver.

Brown, R. S.; Caves, D. W. and Christensen, L. R.—Modelling the Structure of Cost and Production for Multiproduct Firms

This paper illustrates the use of the translog cost function for modelling the structure of cost and production for multiproduct firms without imposing homogeneity or separability. Lawrence R. Klein's 1936 cross-section data on U.S. railroads are analyzed using this technique. Marginal costs of freight and passenger service are estimated for each railroad in the sample. For every railroad the estimated freight marginal cost is less than price—approximately half as large, on average. For all except four railroads the estimated passenger cost is greater than price—generally two to five times greater. *Southern Econ. J.*, July 1979, *46*(1), pp. 256–73. Mathematica Policy Research, Princeton, New Jersey; University of Wisconsin, Madison; *idem*.

Christofides, L. N. and Tapon, F.—Discretionary Expenditures and Profit Risk Management: The Galbraith-Caves Hypothesis

We present a theory of the firm operating under demand uncertainty, in which risk aversion leads the firm (constrained in the short

run to operate with a fixed price) to adjust per unit discretionary expenditures as a means of obtaining a better mean profit-variance of profit position. We investigate how these expenditures vary across risk aversion regimes and how they are adjusted following changes in uncertainty, in business cycle conditions and in corporate taxation. The model provides a means of investigating the Galbraith–Caves hypothesis that firms with market power sacrifice mean profit in return for lower profit variance. *Quart. J. Econ.*, May 1979, *93*(2), pp. 303–19. University of Guelph, Ontario.

Cross, J. G.—Reinforcement Theory and the Consumer Model

A psychological reinforcement learning model is employed to obtain a model of short-run consumer behavior. It is shown that such a model has many properties in common with conventional utility-maximization theories and that its long-run equilibrium properties are identical to those found in maximization theories. Nevertheless, the mechanisms used to describe behavior are quite different, and it becomes possible to describe the evolution of behavior patterns from old to new equilibrium states in a new way. It is then demonstrated how advertising and demonstration effects can be integrated into a learning model of behavior. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 190–98. University of Michigan, Ann Arbor.

Dansby, R. E. and Willig, R. D.—Industry Performance Gradient Indexes

This paper presents a theory of indexes that measure the rate of potential improvement in the welfare performance of industries. Each index combines market shares, demand elasticities, and conjectural variation coefficients characterizing firm behavior. One index reduces to the Lerner index, the Herfindahl index, and the *m*-firm concentration ratio, respectively, in monopoly, quantity Cournot, and collusive price-leadership scenarios. The theory provides a welfare interpretation of standard concentration indexes and methods for deriving new ones. It quantifies the roles played by market structure and modes of firm conduct in determining potential welfare gains from appropriate government intervention. *Amer. Econ. Rev.*, June 1969, *69*(3), pp. 249–60. Bell Laboratories, Murray Hill, New Jersey; Princeton University.

Erdös, T.—On the Changes of the Rate and Share of Profits

The secular movement of the average rate of profit cannot be understood through the method applied in Marxist economics up to now. Value-composition of capital need not necessarily rise over a long period; intially, the growing value-composition of capital increases the rate of profit; over a longer period the rate of profit does not depend on the value-composition; the rate of economic growth is an important factor determining the rate of profit; the movement of the latter might be understood only through the analysis of the growth process; it is the medium-term fluctuations and the nondeclining tendencies of the rate of profit that are of importance. *Acta. Oecon.*, 1977, *19*(3–4), pp. 319–42. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Fishburn, P.C.—Transitivity

Transitivity is the common denominator of ordering relations. The paper explores transitivity in connection with binary relations that are referred to as weak orders. The most general of these is a relation whose complement of its asymmetric part is transitive. Specializations include the familiar complete weak order and asymmetric weak order as well as several nontraditional types. The paper examines connections among transitivity and other properties, and characterizes special types of weak orders wholly in terms of transitivity properties. For example, a nontrivial binary relation is an asymmetric weak order if and only if it, its complement, and the complement of its symmetric part are all transitive. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 163–73. Bell Laboratories, New Jersey.

Forsythe, R.—Unanimity and the Theory of the Firm under Multiplicative Uncertainty

In the presence of uncertainty and an incomplete set of markets, the determination of production plans poses a fundamental problem. Using the unanimity model of S. Ekern and R. Wilson, it is shown that, in the presence

of multiplicative uncertainty, competitive firms should use decision rules that are straightforward adaptations of those used in certainty models. Further, the number of firms in a competitive industry will continue to be indeterminate. Finally, it is shown that even in the absence of the conditions required for unanimity, all stockholders will agree that a firm that possesses a return function exhibiting stochastic constant returns to scale should have a value of zero in equilibrium. *Southern Econ. J.*, July 1979, *46*(1) pp. 218–32. California Institute of Technology, Pasadena.

Gordon, I. M. and Knetsch, J. L.—Consumer's Surplus Measures and the Evaluation of Resources

The expected differences in compensating and equivalent variation measures of consumer's surplus focus on the role of income or wealth effects, with the anticipation that in most instances the difference should be small. Evidence is reviewed that indicates very large differences in the alternative measures. This suggests possible limitations to the usual explanations and has the practical implication of making the choice of the appropriate measure of gains and losses more critical. *Land Econ.*, Feb. 1979, *55*(1), pp. 1–10. Simon Fraser University, Burnaby, British Columbia.

Green, J. and Laffont, J.-J.—Satisfactory Mechanisms for Environments with Consumption Lower Bounds

Previous work on decision-making procedures inducing efficient outcomes as the result of dominant strategies has concentrated on the case of separable utility and has not placed any bounds on the allowable transfers of the private good, which enters linearly into the utility function. This paper extends the theory of dominant strategy mechanisms to the case when consumption is bounded below, and therefore transfers are bounded below by the amount of initial endowment. It is shown that the Pivotal Mechanism induces efficient results, whereas other members of the class of dominat strategy-inducing procedures may fail. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 359–75. Harvard University; *Laboratoire d'Econometrie, de l'École Polytechnique*, Paris.

Greenhut, M. L. and Ohta, H.—Output Effects of Spatial Price Discrimination under Conditions of Monopoly and Competition

The thesis that price discriminating monopolists always produce greater outputs than their nondiscriminating counterparts was shown elsewhere to apply to a uniform distribution of buyers over economic space when each buyer has identical gross demand functions of a well-defined form. The present paper extends such findings to include *competition*. Proof is entered that industry output typically increases, even though the representative discriminating firm may produce less under certain conditions than it would if pricing f.o.b. mill. Generality of theorems is shown to include alternative types of spatial competition and demand functions, with differences from spaceless microeconomic theory indicated. *Southern Econ. J.*, July 1979, *46*(1), pp. 71–84. Texas A&M University, College Station.

Jaynes, G. D.—Equilibria in Monopolistically Competitive Insurance Markets

This paper examines the existence and properties of equilibria in insurance markets where firms have imperfect information about the risk magnitudes of different buyers. The major departure from previous work is that firms are also shown to have imperfect information about the extent of each customer's total coverage. The main results are proofs of existence and a characterization of the types of equilibria considered in earlier work. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 394–422. Yale University.

Kreps, D. M.—A Representation Theorem for "Preference for Flexibility"

This paper concerns individual choice among "opportunity sets," sets from which the individual will later choose a single object. In particular, it concerns preference relations on opportunity sets that satisfy "preference for flexibility," a set is at least as good as all of its subsets, but that may not satisfy "revealed preference," the union of two sets may be strictly preferred to each one taken separately. A representation theorem is given that "rationalizes" such choice behavior as being as if the individual is "uncertain about future

tastes." *Econometrica*, May 1979, *47*(3), pp. 565–77. Stanford University.

Levy, H. and Markowitz, H. M.—Approximating Expected Utility by a Function of Mean and Variance

This paper examines conditions under which some mean-variance efficient probability distribution gives almost maximum expected utility. The results are illustrated with the aid of various utility functions, historical distributions, and mean-variance approximations to expected utility. A *non sequitur* is pointed out in the celebrated Pratt-Arrow objection to mean-variance analysis. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 308–17. Hebrew University, Jerusalem; Thomas J. Watson Research Center, Yorktown Heights, New York.

Little, J. T.—Indirect Preferences

This paper generalizes the notion of indirect utility to that of indirect preferences, which are defined as a binary relation on the set of budgets. The consumer choice problem is reformulated in terms of indirect preference. Conditions under which direct preferences induce indirect preferences generating the same demands are then stated. The properties of indirect preferences on competitive budgets are investigated, and a characterization of revealed indirect preferences is developed. It is demonstrated that the Congruence Axiom and exhaustion of income imply the existence of convex direct and indirect preferences, which rationalize demand. *J. Econ. Theory*, April 1979, *20*(2), pp. 182–93. Washington University, St. Louis.

Manning, R. and McMillan, J.—Public Intermediate Goods, Production Possibilities, and International Trade

This paper looks at the effects on the production set and on international trade of public goods that serve as inputs to production processes. Properties of production functions when there are public intermediate goods are discussed. It is shown that the presence of public inputs may give rise to a non-convex production set. An efficient pricing scheme for the public good is derived. The supply of public good determines the economy's comparative advantage under international trade; in turn, optimal public-good supply depends upon the size of the economy's labor force. Effects of labor migration are discussed. *Can. J. Econ.*, May 1979, *12*(2), 243–57. University of New South Wales, Australia, and University of Western Ontario, London, Canada.

Masoner, M.—The Allocation of Time: An Extension

This paper investigates the consistency with which people allocate time. To explain the possibility that people may be inconsistent in allocating time, a modification of the allocation of time model was presented that allowed people to consider time to be a scarce resource in some instances but not in others. An implication of the modified model was submitted to an empirical test, which supported the model. Based on the empirical findings, suggestions were made concerning the individual's ability to allocate time, the degree of scarcity of the time resource, the value gains of a four-day workweek, and the pricing policy of commercial air travel. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 107–22. Southern Illinois University, Carbondale.

Miller, S. M. and Romeo, A. A.—Alternative Goals and Uncertainty in the Theory of the Firm

The neoclassical profit-maximizing theory of firm behavior has long been subject to criticisms and modification. These modifications have taken various forms, but two principal ones have involved introducing demand uncertainty and allowing for goals other than profit. This paper considers the effect on the decision process of the firm of introducing both modifications simultaneously. A comparison of the neoclassical and modified models indicates certain similarities and differences in their optimal outputs and comparative static properties. The results suggest that it would be difficult to distinguish between the various models' predictions on the basis of empirical evidence. *Southern Econ. J.*, July 1979, *46*(1), pp. 189–205. University of Connecticut, Storrs.

Parks, R. W.—Durability, Maintenance, and the Price of Used Assets

This paper considers assets whose service flow decays at a rate determined by built-in durability and the level of maintenance. A cost minimization model determines optimal durability and maintenance and shows how these variables respond to changes in interest rates, the price of maintenance, and the cost of new assets. The price of old assets adjusts so that the cost of services from both old and new assets is the same. The model provides a framework for analyzing data on automobile scrapping rates and repair expenditures. Data for postwar United States show that scrapping rates are sensitive to the price of repairs relative to the price of new cars. The amount of repairs per car also responds to the relative repair price. *Econ. Inquiry*, April 1979, *17*(2), pp. 197–217. University of Washington, Seattle.

Pestieau, P. and Possen, U. M.—A Model of Wealth Distribution

This paper presents a model of wealth distribution that uses the lognormal distribution to explain inequality and its changes over time. The stochastic factor in each period is shown to result from deliberate choice by individual decision-makers regarding their savings, investment, and bequests. The source of randomness is two-fold: uncertainty above rates of return and randomness of the distribution of natural skills. Also studied is the impact of tax parameters on inequality. Two categories of taxes are distinquished: taxes on flows, such as those on income, portfolio returns, and earnings, and those on the stock, such as wealth or estate taxes. *Econometrica*, May 1979, *47*(3), pp. 761–72. Cornell University.

Pratt, J. W.; Wise, D. A. and Zeckhauser, R.—Price Differences in Almost Competitive Markets

Empirical evidence gathered in markets for 39 relatively standardized goods shows much more variation in price than would be predicted by competitive market theory. Standard deviations on average were 22 percent of the means. With price distributions known and buyers searching optimally, a multiple-price, equal-profits equilibrium may exist if profit-maximizing sellers charge one among a discrete set of prices. More generally, with imperfect information about prices, and buyers updating their distributions (possibly in nonoptimal fashion), it is proved that an equilibrium always exists. Multiple-price examples are presented. *Quart. J. Econ.*, May 1979, *93*(2), pp. 189–211. Harvard University.

Richter, M. K.—Duality and Rationality

A framework is presented for choice and rationality theories, together with an abstract theory of duality, extending the usual dualism of direct and indirect demand and utility. The duality involves concepts (demand, budgeter, utility, worth, value, *etc.*), axioms (revealed preference, integrability, and differential revealed preference), theorems (existence of utility, worth, value; relationships between revealed preference and integrability axioms; *etc.*), and proofs. A Duality Metatheorem is applied to generate new rationality theorems and proofs from (improved versions of) old ones. *J. Econ. Theory*, April 1979, *20*(2), pp. 131–81. University of Minnesota, Minneapolis.

Schmalensee, R.—Market Structure, Durability, and Quality: A Selective Survey

This essay provides an expository survey of that branch of the theoretical literature on product quality determination, which assumes that quality can be represented by a scalar. The bulk of the work considered associates that scalar with durability. Peter Swan's result that market structure has no impact on quality is derived in a straightforward way, and the assumptions on which it rests are identified and discussed. The consequences of relaxing those assumptions, as revealed by the subsequent literature, are described. The general implications of the durability literature are summarized. *Econ. Inquiry*, April 1979, *17*(2), pp. 177–96. Massachusetts Institute of Technology.

Schmidt, P., and Lovell, C. A. K.—Estimating Technical and Allocative Inefficiency Relative to Stochastic Production and Cost Frontiers

Earlier papers by D. J. Aigner, C. A. Knox Lovell, and Peter Schmidt and by W. Meeusen and J. van den Broeck have considered stochastic frontier production functions. This paper extends that work by considering the duality

between stochastic frontier production and cost functions, under the assumptions of exact cost minimization (technical inefficiency only) and of inexact cost minimization (technical and allocative inefficiency). We show how to measure both types of inefficiency, and the associated cost of inefficiency. The techniques are illustrated using data on steam-electric generating plants. *J. Econometrics*, Feb. 1979, *9*(3), pp. 343–66. Michigan State University, East Lansing; University of North Carolina, Chapel Hill.

Selden, L.—An OCE Analysis of the Effect of Uncertainty on Saving under Risk Preference Independence

The strong interdependence between risk and time preferences implicit in the additively separable and PLS (Phelps–Levhari–Srinivasan) forms of two-period expected utility is shown to result in a number of misleading conclusions concerning the effects of capital risk on optimal saving. It is frequently asserted, based on the PLS utility model, that the qualitative effect of increased risk on saving depends on one's degree of risk aversion. By using the "Ordinal Certainty Equivalent" representation of preferences (which includes two-period expected utility as a special case), we show that what really matters is not risk aversion but rather a parameter of the consumer's time preferences interpretable as a measure of intertemporal complementarity. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 73–82. Columbia University.

Sheshinski, E. and Weiss, Y.—Demand for Fixed Factors, Inflation and Adjustment Costs

Due to costs of price adjustment, individual firms will adjust their nominal prices during general price increases with periodical discrete jumps. A change in the expected rate of inflation affects the frequency and the size of the jumps in nominal prices. Also affected are the patterns of changes in the real price and hence sales and output within each interval. Fixed or quasi-fixed factors of production, such as labor, are hired in anticipation of the variations in their rate of utilization. The conditions under which an increase in inflationary expectations leads to a reduction or increase in the demand for fixed factors are stated in the paper. Examples are given to illustrate that costs of price adjustment may operate on the demand side and at the micro level to induce a positively inclined Phillips curve. *Rev. Econ. Stud.*, Jan. 1979 *46*(1), pp. 31–45. Hebrew University, Jerusalem; Tel-Aviv University.

Telser, L. G.—A Theory of Monopoly of Complementary Goods

The theory of monopoly of complementary goods raises two important issues. First, when can a monopolist increase his net return by selling at least one of a set of complementary commodities at a price below its marginal cost? This paper shows that this practice is consistent with a maximum monopoly net return and rational customers who calculate correctly the cost of the combination of complementary commodities. Second, it is shown that a monopolist can increase his net return by forming groups of complementary commodities and selling these groups to different types of customers. It is a maintained hypothesis that the total cost of a set of complements is a linear function of the quantities. Hence, the theory relies on the nature of the demand conditions to explain these practices. The theory applies to tie-in sales, block booking, and resale price maintenance. *J. Bus.*, April 1979, *52*(2) pp. 211–30. University of Chicago.

Young, L.—Uncertainty, Market Structure and Resource Allocation

If a firm faces uncertain demand and chooses price and output taking account of inventory and shortage costs, then the choice of price is modified by its impact on demand uncertainty. The marginal revenue–marginal cost rule must be modified accordingly. If increased competitiveness increases proportional demand uncertainty, then the firm might *raise* price and *reduce* sales—even though the elasticity of expected demand increases. An increase in competitiveness, which increases sales or decreases profitability, can increase average inventory and shortage costs—implying a social loss. For a large class of demand structures, these possibilities occur whenever inventory and shortage costs are significant.

Oxford Econ. Pap., March 1979, *31*(1), pp. 47–59. University of Canterbury, Christchurch, New Zealand.

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Bhalla, S. S.—Measurement Errors and the Permanent Income Hypothesis: Evidence from Rural India

This paper extends Friedman's permanent income model by explicitly allowing for the distinction between pure measurement errors and transitory terms in the observed variables. Incorporation of this distinction in the theoretical, and empirical, framework is necessary for valid and direct tests of the permanent income hypothesis (PIH). The results support the contention of the PIH that measured consumption elasticities are downwardly biased estimates of the true permanent elasticities; the difference between the two is large and in a direction predicted by the PIH. However, a major, and controversial, aspect of the PIH is strongly rejected by the data; the elasticity between permanent components is less than unity. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 295–307. World Bank, Washington, D.C.

Bronfenbrenner, M.—On the Locomotive Theory in International Macroeconomics

This essay expands conventional Keynesian macroeconomics to a two-country and then a three-country case, in which each country's real income depends in part upon the real incomes of its trading partners. The "locomotive" effect of each country on the world system is then analyzed in terms of the results from equiproportionate expansions of that country's autonomous expenditures *A* as related to its national income *Y*. The not-particularly-surprising result is reached that the *largest* country in the system can normally exercise the greatest "locomotor" influence on world income for a given stimulation effect. The result is, of course, open to significant modification if the potential locomotive countries differ in their propensities to save and import, and also (in the three-country case) in the nature of their relationship to nonlocomotive or "caboose" countries. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 38–50. Duke University.

Calvo, G. A.—On the Indeterminacy of Interest Rates and Wages with Perfect Foresight

We give two examples where there is a continuum of perfect foresight paths converging to the same steady state. Two versions of the Samuelson–Diamond overlapping-generations model are utilized: the first one assumes labor and (nonreproducible) land are the only two factors of production, whereas the second assumes a fixed-coefficient, two-sector technology with labor and (reproducible) capital. Discusses extensions to cases where some prices are predetermined and there is an infinitely-lived firm as well as implications for income distribution and Rational Expectations models. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 321–37. Columbia University.

Dewald, W. G. and Marchon, M. N.—A Common Specification of Price, Output, and Unemployment Rate Responses to Demand Pressure and Import Prices in Six Industrial Countries

This paper reports an empirical investigation of the interaction of aggregate demand and supply in six countries: Canada, France, Germany, Italy, the United Kingdom, and the United States. This paper is concerned with the determination of inflation, real output, and the unemployment rate that results as a consequence of aggregate excess demand. To summarize, the authors identify large and generally significant short-run effects of changes in money, government spending, and exports on demand. Though they estimate a positive adjustment in prices to demand pressure, the adjustment is generally weak. Thus changes in aggregate demand are estimated to have significant short-run effects on output and the unemployment rate. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 1–19. The Ohio State University, Columbus; *Institut d' Economie Appliquée de l'Ecole des Hautes Etudes Commerciales*, Montreal.

Eichner, A. S.—A Post-Keynesian Short-Period Model

This article has two main purposes. The first is to help clarify what is meant by a post-Keynesian short-period model. Five distinguishing features of that type of model are

identified. They are (1) the primary causal role assigned to business investment and other types of discretionary expenditures; (2) the attention paid to income distributional effects; (3) the assumption of mark-up pricing; (4) the reliance on an exogenously determined money wage, and (5) the emphasis on credit availability rather than on changes in the money stock. A particular post-Keynesian short-period model is then specified, reflecting these five characteristics. The second purpose of the article is to help clarify the differences between a post-Keynesian short-period model on the one hand and more conventional monetarist and Keynesian models on the other hand. Flow diagrams for the three types of models are presented and the input-output relationships analyzed so as to bring out the essential differences. The two most important of these differences are: (1) Whereas in both the monetarist and standard Keynesian models a change in the monetary variables logically precedes any change in the real sphere, in the post-Keynesian model specified this is not necessarily the case. The arrows of causation run in both directions. (2) The post-Keynesian model does not rely on the Phillips curve relationship to explain price movements, and thus the rate of inflation. It instead focuses on the differential growth of output per worker and of money wages. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 38–63. State University of New York, Purchase and Columbia University.

Floyd, J. E. and Hynes, J. A.—Capital Immobility, Adjustment Costs, and the Theoretical Foundations of Income-Expenditure Models

This paper reexamines traditional macrotheoretical questions in models that fully integrate conditions of production into the structure. The relative price of capital and consumer goods, and the real rate of interest are required to equal the technical rates of transformation. Capital stocks are immobile between sectors, and increasing marginal costs of introducing new capital goods into the production process are assumed. Given plausible values of the parameters, standard fiscal policies may not change aggregate demand in the directions predicted by the *IS-LM* approach. And to judge what outcome is most likely requires considerable information about an economy's structure of production. *J. Polit. Econ.*, April 1979, *87*(2), pp. 267–91. University of Toronto.

Garegnani, P.—Notes on Consumption, Investment and Effective Demand: II

This is Part II of an article on the long-run saving–investment relation (Part I appeared in the previous issue of the same journal). The problem is here approached in terms of John Maynard Keynes's monetary analysis. A comparison with Knut Wicksell's monetary theory shows that Keynes's different conclusions arise from rejecting orthodox interest theory, and not from assuming wage rigidity. Later rehabilitations of the traditional theses on the saving-investment process are traced to deficiencies of Keynes's criticism of that interest theory. An appeal is then made to the different critique of that theory conducted in Part I, based on the deficiencies of the conception of capital as a factor employable in increasing quantity as interest falls. The conclusion is drawn that even in the long run, savings cannot determine investment. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 63–82. University of Rome.

Kaldor, N.—An Introduction to "A Note on the General Theory"

This note introduces the English translation of the preface by Jean de Largentaye to his French translation of Keynes's *General Theory* in 1939 and a revised version in 1968. M. Largentaye was a distinguished civil servant, and French Executive Director of the International Monetary Fund from its inception to 1964. His preface makes two main points worth wider attention: (1) Keynes's original assumption of diminishing returns to labor, modified later, led to views that more employment required a fall in real wages, and (2) but for the role of "credit-money," involuntary unemployment could not exist. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 3–5. University of Cambridge.

Löfgren, K.-G.—The Corridor and Local Stability of the Effective Excess Demand Hypothesis: A Result

This paper deals with the local stability of the effective excess demand hypothesis. It is

shown that the seminal version of the Barro–Grossman model can be unstable under the effective excess demand hypothesis, even if the model is stable under the traditional excess demand hypothesis. The result is a partial refutation of a conjecture by E. C. H. Veendorp, and it also sheds some light on an interchange between Axel Leijonhufvud and Herschel I. Grossman on effective demand failures. *Scand. J. Econ.*, 1979, *81*(1), pp. 30–47. University of Umeå, Sweden.

Pesek, B. P.—A Note on Theory of Permanent Income

Future income, beset by risks (with probability distributions) and uncertainties (without them) is unknowable. Its exact quantification, permanent future income, is therefore impossible and cannot form basis for economic decisions and economists' attempts to understand them. As a result, all alleged tests of the permanent income hypothesis (PIH) are investigating not the relationship between future incomes and current decisions, but a totally different relationship: between past incomes and current decisions. These investigations of what is *not* the PIH are of most dubious value technically because of the arbitrary sets of weights that are being attached to the so-called independent variable (past incomes) and the dependent variables (consumption or money). Failure to confirm the past–present relationship is thus next to impossible. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 64–69. University of Wisconsin, Milwaukee.

Ramser, H. J.—Keynessche Inflations- und Kaldorsche Verteilungstheorie (Keynes' Inflation Model and Kaldor's Distribution Theory)

The connection between Keynes's inflation model and Kaldor's distribution theory is analyzed. It is shown that the Kaldorian distribution theory is embodied in the Keynesian inflation model and the irrelevance of wage policy as suggested by the Kaldor model holds only under extreme assumptions on wage and price responsiveness. Normally, a change in distribution brought about by wage policy will affect price stability and likewise—if employment is assumed to be variable—the level of employment. *Kyklos*, 1979, *32*(1/2), pp. 205–18 (German). University of Konstanz, West Germany.

Rødseth, A.—Macroeconomic Policy in a Small Open Economy

A two-sector model is used to discuss the effects of fiscal policy and exchange-rate variations in a small open economy. The emphasis is on a situation with unemployment and a restriction on the nominal wage rate. It is shown that indirect taxes have to be used in order for fiscal policy to make both sectors expand simultaneously. A shift from payroll taxes or the value-added tax to direct taxation will thus lead to increased production in both sectors. A devaluation is shown to be equivalent to a particular tax policy. *Scand. J. Econ.*, 1979, *81*(1), pp. 48–59. University of Oslo.

Sattinger, M.—Differential Rents and the Distribution of Earnings

This paper considers the determination of the wage and capital rent functions in an economy with heterogeneous labor and capital. Given the distribution of labor units according to productivity and the distribution of capital units according to size, it is possible to solve for the differential equations describing the wage and capital rent functions. Integrating and using boundary conditions yields the wage and capital rent functions themselves. It is found that inequality in the distribution of labor earnings depends on the inequality in the distribution of capital among units and on the reserve prices of labor and capital. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 60–71. Miami University, Oxford, Ohio.

Steindl, J.—Stagnation Theory and Stagnation Policy

The author draws a parallel between Roy Harrod's growth theory and his own views (in *Maturity and Stagnation,* 1952). Both imply that the economy is adapted to a high growth rate, and that slow growth tends to send it down into stagnation. The underlying rigidity is attributed to its oligopolistic structure. In the analysis of the high growth of the postwar period up to 1974 and the stunted growth afterwards, political and social developments are

prominent, *e.g.*, the decline in international cooperation and the upsurge of a reaction against social and full employment policies. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 1–14. University of Vienna.

Stoneman, P.—A Simple Diagrammatic Apparatus for the Investigation of a Macroeconomic Model of Temporary Equilibria

A diagrammatic apparatus is presented, which allows one to derive simply and concisely results on the behavior of a macroeconomic model of temporary equilibria. No new results are presented, but the proposition that the cure for unemployment depends on its cause is illustrated. *Economica*, Feb. 1979, *46*(181), pp. 61–66. University of Warwick, Coventry, England.

Tuchscherer, T.—Keynes' Model and the Keynesians: A Synthesis

Present day Keynesian economics is roughly divided into three schools of thought: (1) the Hicks–Patinkin *IS-LM* approach; (2) the Clower–Leijonhufvud disequilibrium theory; and (3) the Davidson–Weintraub–Wells aggregate demand and supply approach. This paper attempts to unite the fundamental ideas of each of the three into one consistent Keynesian model. The key to resolving their past disagreements lies in the proper understanding of Keynes's overthrow of classical postulate two—the foundation of the market supply curve of labor. Once it is shown that Keynes looked upon this locus as an *inappropriate market behavioral function*, then *IS-LM* analysis, aggregate demand and supply, the dual decision hypothesis, the importance of uncertainty, the real balance effect, *etc.*, all appear as complementary aspects of one Keynesian model. Furthermore the paper demonstrates that the interest inelastic investment demand function and/or infinitely elastic liquidity function are exceptional circumstances not really germane to the central argument of the *General Theory*. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 96–109. Portland State University, Oregon.

Turnovsky, S. J.—Inflationary Expectations in a Two-Sector Model of Wage-Price Determination

This paper presents a two-sector analysis of wage and price determination in which some prices and wages are set by competitive forces, while others are the outcome of a noncompetitive price setting process. The analysis emphasizes the role of inflationary expectations in this disaggregated framework. Most of the paper focuses on the steady-state of the system in which sectoral price (wage) inflation rates are equalized. In this steady state the common rate of price inflation, wage inflation, the relative price of noncompetitive to competitive goods, the relative wage of unionized to nonunionized labor, and the share of output earned by labor are all determined simultaneously. The comparative static properties of these equilibrium quantities are then investigated in some detail. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 1–19. Australian National University, Canberra.

Weintraub, S.—Generalizing Kalecki and Simplifying Macroeconomics

The "wage earner spends all, capitalists save all" thesis is generalized by writing $C = \alpha w N$, where $\alpha = 1$ in the Kalecki–Kaldor–Robinson models and in the case where wage-earner savings and tax payments are exactly counterbalanced by nonwage earner consumption. The consumption function, profits, multiplier, real wages, price level results are simplified. For the United States, the United Kingdom, Canada, α has hovered about $\pm$ .05 unity in recent years. In the more or less predictable path of consumption and the stability of the wage share, econometrics secures good results through more elaborate techniques. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 101–06. University of Pennsylvania.

024 Welfare Theory

Baumol, W. J.—Quasi Optimality: The Price We Must Pay for a Price System

The paper argues that, in the absence of lump sum payments, a Pareto optimum is achievable by marginal cost pricing and/or competitive equilibrium only when the boundary of the social production set happens to be linearly homogeneous near that optimal solution. Thus, contrary to widespread belief, *both* diminishing and increasing returns can be in-

compatible with achievement of optimality via parametric prices. Generally, the best that *any* set of fixed prices can achieve is the Ramsey solution constrained by Walras's law. The resulting welfare loss is the price society *must* pay for using a price system to allocate resources. *J. Polit. Econ.*, June 1979, *87*(3), pp. 578–99. Princeton University.

Bhagwati, J. N. and Wan, H., Jr.—The "Stationarity" of Shadow Prices of Factors in Project Evaluation, with and without Distortion

By a trade-theoretic approach, we find: (1) with distortion and products outnumbering factors, project opportunity costs depend on sources of factor diversion and not uniquely on amounts diverted; (2) with distortion and products matching factors, number-wise (or without distortion and factors not outnumbering products) even large projects may be exactly evaluated by marginal variational factor costs, when the residual factor vector stays within the original Rybezynski cone. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 261–73. Massachusetts Institute of Technology; Cornell University.

Dahlman, C. J.—The Problem of Externality

This article analyzes what kinds of transaction costs are consistent with the generation and perpetuation of externalities. It shows that no known notion of transaction costs can generate externalities. Therefore, the use of the word "externality" simply indicates the choice of a suitable reference point for welfare judgments that always implies that markets are inefficient. Hence, the word externality is not a positive but a normative concept. The author shows how the approach to externalities originating in the Coase theorem bypasses these issues, whereas the modern general equilibrium treatment is ripe with some fundamental methodological flaws. *J. Law Econ.*, April 1979, *22*(1), pp. 141–62. University of Wisconsin.

Frech, H. E., III—The Extended Coase Theorem and Long Run Equilibrium: The Nonequivalence of Liability Rules and Property Rights

Many authors have held that in a world with reasonable positive transactions costs, the assignment of liability for pollution damages affects profits, thus long-run equilibrium. Therefore, the Coase Theorem fails for such cases. Others have defended the Theorem in such situations. This paper shows that the disagreement has its roots in a confusion of liability rules and property rights. A simple general equilibrium model is used to show that the Theorem is correct for property rights assignments, but not for liability rules. Liability rules are shown to be, in effect, incomplete property rights, which leads to inefficiency. *Econ. Inquiry*, April 1979, *17*(2), pp. 254–68. University of California, Santa Barbara.

Goldman, S. M.—Intertemporally Inconsistent Preferences and the Rate of Consumption

The rate of consumption is examined in the context of a sophisticated finite sequence planning economy. Conditions are presented—principally changing tastes—under which the initial rate of consumption could be reduced while improving the welfare of the economy at each moment. The source of overconsumption in a generational context is, briefly: If tastes are changing, future generations may allocate their "inheritance" differently than the first generation would wish. Thus the incentive to the first generation to bequeath is affected. If, only, the first generation could prescribe the consumption from a marginal bequest, their incentive to save would be strengthened. *Econometrica*, May 1979, *47*(3), pp. 621–26. University of California, Berkeley.

Guesnerie, R. and Laffont, J.-J.—Taxing Price Makers

We consider, first, an economy with a government controlling consumption taxes and lump sum transfers and a price-maker (monopoly, oligopoly). Two cases appear: in the "good" one, first best is restored; in the "bad" case, the optimum is a second best where the price-maker's reaction function is multivalued. This latter phenomenon is shown neither rare nor pathological: a well-behaved economy with monopoly is exhibited where no first best is decentralizable. In the second part, ruling out lump sum taxes, we stress the generality of the phenomenon: government optimization often pushes the system to unstable or "cata-

strophic" situations. *J. Econ. Theory,* Dec. 1978, *19*(2), pp. 423–55. CEPREMAP-CNRS, Paris; *École Polytechnique,* Paris.

Hylland, A. and Zeckhauser, R.—The Efficient Allocation of Individuals to Positions

In a variety of contexts, individuals must be allocated to positions with limited capacities. Legislators must be assigned to committees, college students to dormitories, and urban homesteaders to dwellings. (A general class of fair division problems would have the positions represent goods.) This paper examines the general problem of achieving efficient allocations when individuals' preferences are unknown, and where (as with a growing number of non-market allocation schemes) there is no facilitating external medium of exchange such as money. An implicit market procedure is developed that elicits honest preferences, that assigns individuals efficiently, and that is adaptable to a variety of distributional objectives. *J. Polit. Econ.,* April 1979, *87*(2), pp. 293–314. Harvard University.

Lucas, R. E. B.—Sharing, Monitoring, and Incentives: Marshallian Misallocation Reassessed

A general equilibrium model is presented wherein wage labor requires monitoring in order to extract effort. Landlords may also elect to adopt share-tenancy contracts in which workers have an incentive to supply unsupervised effort. Two "distortions" exist: monitoring costs in one sector and a share "tax" in the other. Efficiency statements require second-best comparisons adopting more specific functional forms. This mixed wage–share-tenancy economy is technically efficient, and provides greater Benthamite social welfare than a wage-only economy, when private incentives lead to mixing. The incidence of share-tenancy is hypothesized to increase with monitoring costs, density of tenants per landlord, and labor intensity of production. *J. Polit. Econ.,* June 1979, *87*(3), pp. 501–21. Boston University.

Shorrocks, A. F.—Income Inequality and Income Mobility

The inequality value computed for any flow variable will depend on the choice of the accounting period. As the interval is extended, the inequality index usually declines, since the longer period enables some of the short-term fluctuations to cancel out. However, no such inequality reduction will be recorded if the society were rigid or (income) immobile. The paper examines the precise relationship between the inequality value and the accounting period. This leads to a new approach to the measurement of mobility when the variable in question is a flow. *J. Econ. Theory,* Dec. 1978, *19*(2), pp. 376–93. London School of Economics.

Ulph, D.—On Labour Supply and the Measurement of Inequality

When income varies with hours of work, but with distribution of labor skills given, it is shown that Joseph Stiglitz's finding that inequality measures can be negative results from a confusion of efficiency loss with distributional loss. An alternative measure is proposed that is non-negative and typically greater than traditional measures. When labor skills can be redistributed, there may be no fair and efficient allocation. When income and labor endowments can be re-distributed, fair and efficient allocations exist but may not be welfare maximizing, so negative measures of inequality may result. Divisibility of labor skills is shown to avoid these difficulties. *J. Econ. Theory,* Dec. 1978, *19*(2), pp. 492–512. University College London.

Welch R. L.—The Representation of Shadow Values in Resource Allocation Teams

In problems of allocating infinitely many resources, which often arise in models with time or uncertainty, the dual space of the trade constraint contains many elements that may not be representable as a system of prices. Although this problem has been discussed in the efficiency price literature, such theorems may not be useful in models where there are many decision-makers, each with different information. The appropriated representation theorems are provided. Similarity with theorems in the efficiency price literature is discussed, and an extension of the approximation results found there is also displayed. *J. Econ. Theory,*

Feb. 1979, *20*(1), pp. 23–40. Wayne State University, Detroit.

Weymark, J. A.—On Pareto-Improving Price Changes

A set of necessary and sufficient conditions for the existence of price changes, which will lead to a Pareto improvement relative to an initial set of demands, is presented. Considers applications of this result to optimal taxation theory. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 338–46. University of British Columbia, Vancouver.

Wolf, C., Jr.—A Theory of Nonmarket Failure: Framework for Implementation Analysis

The principal rationale for public policy intervention lies in the inadequacies of market outcomes. A reasonably well-structured theory already exists for explaining and predicting these inadequacies or failures. But *non-market* remedies for market failures may themselves fail. Non-market failure requires analysis so that its predictability can be advanced toward that already reached in the case of market failure. The theory of non-market failure developed in this paper suggests the sources of non-market failures and where to look for them. In turn, the theory of non-market failure provides a framework for the systematic analysis of implementation as an integral part of policy research. *J. Law Econ.*, April 1979, *22*(1), pp. 107–39. The Rand Corporation, Santa Monica, California.

025 Social Choice

Barbera, S.—A Note on Group Strategy-Proof Decision Schemes

Decision schemes are social decision-making procedures that assign a lottery on alternatives to each *N*-tuple of rankings over alternatives. A decision scheme is group strategy-proof if no group of expected utility maximizing individuals would ever find it advantageous to manipulate its outcome by misrepresenting their preferences. It is proven that, if a decision scheme is group strategy-proof, either (a) only the probabilities attached to two of the alternatives may change as individual preferences change, or else (b) the probabilities attached to alternatives depend on the stated preferences of a single, fixed individual. Sufficient conditions for group strategy-proofness are also provided. *Econometrica*, May 1979, *47*(3), pp. 637–40. University of Bilbao, Spain.

Cohen, L.—Cyclic Sets in Multidimensional Voting Models

Simple majority rule usually does not yield an unambiguous consistent outcome. Assuming a characterization of the set of potential outcomes as R^n and an odd number of voters with quasi-concave preferences, a unique, nonempty set of majority rule cycles exists. Sufficient conditions are established for the top cycle set to encompass the entire policy space. Generalized quadratic utility functions satisfy these conditions. *J. Econ. Theory*, Feb. 1979, *20*(1), pp. 1–12. Harvard University.

Frey, B. S.—Economic Policy by Constitutional Contract

Constitutional contracts offer a promising approach for influencing economic policy in politico-economic systems in which government is an endogenous part. Such contracts establish the society's ground rules by unanimous consent and are applicable in many problem areas in the real world. The economic policy adviser's task is to help develop, realize, and maintain them. This approach marks the beginning of a theory of economic policy, which is directly connected with practical economic policy as it emerges out of the political process in a democracy, and which is more than a simple maximization of a social welfare function subject to constraints. *Kyklos*, 1979, *32*(1/2), pp. 307–19. University of Zurich.

Greenberg, J.—Consistent Majority Rules over Compact Sets of Alternatives

Consider a society with n individuals who must choose an alternative from a given nonempty set X. For an integer d less than or equal to n, a d-majority equilibrium is an alternative x^* an element of X such that no alternative in X is preferred to x^* by at least d individuals. It is proved that when X is a compact and convex set of dimension m, a necessary and sufficient condition that for every profile of individuals' convex and continuous preferences there exists a d-majority equilibrium is that d be

greater than $(m/(m+1))n$. *Econometrica*, May 1979, *47*(3), pp. 627–36. Virginia Polytechnique Institute, Blacksburg.

McKee, A.—From a Theory of Economic Justice to Its Implementation

Economic justice is best approached by distinguishing basic concept, intermediate principles and implementation stage. It implies a group of human rights, which must be satisfied through appropriate institutions and working of the economy. The approach outlined contrasts "moderate realism" in knowing and implementing economic justice with the nonoperational, analytic method of welfare economics, the self-interest social contract proposals of John Rawls, the individualistic calculus of James Buchanan, and the narrow logic of Kenneth Arrow's social choice. The "rational" approach to decision-making becomes a pseudo-ethics, substituting a discussion of procedures for the substance of decisions. The problem solving of actual economics has little to do with this academic business and is much closer to the way of moderate realism outlined. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 63–78. King's College, London, Ontario.

Ott, A. E.—Ueber die Definition eines Verteilungszieles (On the Definition of a Distribution Target)

Neither the "Act concerning the formation of an economic-experts commission" nor the "Act concerning economic regulation" contains any distributional targets. Indeed, taking national income as given, and factor-income distribution and distribution among social classes as equal, no target of income policy may be formulated that would be acceptable to both industry and unions. Income growth and income sources have to be considered. The following distributive target may then be stated: The participation of every social group in working income and in wealth income shall be identical. Thus, participation in national income is constant and independent from factoral distribution. *Kyklos*, 1979, *32*(1/2), pp. 320–30. University of Tübingen, West Germany.

Schubert, W.—On the Proper Role of Government in the Dual Economy

The paper argues that economists have incorrectly interpreted economic efficiency to mean market efficiency. Economic efficiency is achieved when society's welfare is maximized. It is imperative that economists try to find the proper mix of market and government goods consistent with maximizing societal welfare within the construct of both price-value and voter-value theory. One possible mix is to have the government assure the provision of rights, while the market provides privileges. This is the rights/privileges criterion. Some of the problems of the rights/privilege criterion are discussed. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 127–30. Clemson University, South Carolina.

026 Economics of Uncertainty and Information

Harris, M. and Raviv, A.—Optimal Incentive Contracts with Imperfect Information

This paper develops a general model of moral hazard in an agency setting and derives Pareto optimal contracts under various assumptions on the information structure. In particular, we show that monitoring of the agent's action (if it is free) can be expected whenever the agent is risk averse, even if such monitoring produces only a (noisy) estimate of the action. Moreover, we show that in such cases, optimal contracts will be such that the agent is rewarded if the monitoring result indicates adequate performance; otherwise he is dismissed. This result is consistent with the most widely used forms of employment contracts. Further potentially testable implications are derived under more restrictive assumptions. *J. Econ. Theory*, April 1979, *20*(2), pp. 231–59. Carnegie-Mellon University, Pittsburgh.

Kreps, D. M. and Porteus, E. L.—Temporal von Neumann–Morgenstern and Induced Preferences

Induced preference in dynamic contexts, such as preference for uncertain income streams induced from preference for consumption streams, typically does not have an expected utility representation. Earlier resolution of uncertainty is preferred for planning purposes, and the standard von Neumann–Morgenstern substitution axiom may fail for uncertainty resolving at a single date. Tempo-

al von Neumann–Morgenstern preference elations can encompass the first effect, but not he second. We establish necessary and suffiient conditions for induced preference to be emporal von Neumann–Morgenstern, and we onsider how well-induced preference is approximated by temporal von Neumann–Morgenstern preference when those conditions are ot met. *J. Econ. Theory,* Feb. 1979, *20*(1), pp. 1–109. Stanford University.

Kwon, Y. K.; Fellingham, J. C. and Newman, D. P.—Stochastic Dominance and Information Value

In an economy with two agents (the investor nd the producer), information production and tilization is analyzed with respect to three listinct issues: (1) production implications of nformation, (2) reduction of informational symmetry between the agents, and (3) reduction of perquisite consumption by the producer. In general, if the effect of information an be characterized in terms of the first-legree stochastic dominance and the utility unctions of the agents possess appropriate isk-taking characteristics, information choice y the producer is seen to benefit both agents. *. Econ. Theory,* April 1979, *20*(2), pp. 213–30. University of California, Berkeley; University f Texas, Austin; *idem.*

Milgrom, P. R.—A Convergence Theorem for Competitive Bidding with Differential Information

This paper investigates the behavior of the vinning bid in a sealed bid tender auction vhere each bidder has private information. Vith an appropriate concept of value, the winning bid will converge in probability to the alue of the object at auction (as the number f bidders grows large) if and only if a certain nformation condition is satisfied. In particular, t is not necessary for any bidder to know the alue at the time the bids are submitted. These esults bear on the relationship between price nd value and on the aggregation of private nformation by the auction mechanism. *Econometrica,* May 1979, *47*(3), pp. 679–88. Stanford University.

Weitzman, M. L.—Optimal Search for the Best Alternative

This paper completely characterizes the solution to the problem of searching for the best outcome from alternative sources with different properties. The optimal strategy is an elementary reservation price rule where the reservation prices are easy to calculate and have an intuitive economic interpretation. *Econometrica,* May 1979, *47*(3), pp. 641–54. Massachusetts Institute of Technology.

030 History of Economic Thought; Methodology

031 History of Economic Thought

Ando, A.—On the Contributions of Herbert A. Simon to Economics

This survey of Herbert A. Simon's contributions to economics is based on a consistent theme which runs throughout Simon's work, *i.e.*, to construct a comprehensive framework for modelling and analyzing the behavior of man and his organizations faced with a complex environment, recognizing the limitation of his ability to comprehend, describe, analyze and to act, while allowing for his ability to learn and to adopt. Topics include adaptive behavior and the dynamic adjustment process, near decomposability, hierarchial structure, and causal relationships. *Scand. J. Econ.*, 1979, *81*(1), pp. 83–93. University of Pennsylvania.

Baumol, W. J.—On the Contributions of Herbert A. Simon to Economics

This survey of Herbert A. Simon's contributions to economics focuses mainly on Simon's theories regarding organizational behavior, satisficing versus maximization, and the criterion for postive valued solutions. *Scand. J. Econ.,* 1979, *81*(1), pp. 74–82. New York University and Princeton University.

Bordo, M. D. and Landau, D.—The Pattern of Citations in Economic Theory, 1945–68: An Exploration towards a Quantitative History of Thought

This article systematically analyzes the footnote references and bibliographies of articles in eight leading economics journals in the mainstream of economic theory over the period 1945–68, to shed light on some of the salient characteristics of the postwar development of the literature of economics. We find

that economics displays some of the characteristics of physical science—our finding of an average "half-life" of all journal articles of 5.4 years compares to similar results for physics. In addition, we discern a considerably larger impact of a small number of eminent leaders in the field than by other scholars in our sample of cited articles, evidenced both in a greater citation frequency and a longer time pattern of citation. Finally, our analysis reveals that only a small fraction of published articles in economics are cited. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 240–53. Carleton University, Ottawa.

Ekelund, R. B., Jr., and Price, E. O., III—Sir Edwin Chadwick on Competition and the Social Control of Industry: Railroads

This article investigates a well-developed contribution to the analysis of railway economics made by Sir Edwin Chadwick (1800–1890), a lawyer and civil servant. Specifically, this article critically evaluates Chadwick's unorthodox theory of competition and industrial organization; demonstrates that his solution to the railway–natural monopoly problem encompassed to a large extent those of his most innovative contemporaries in England and Europe interested in railway economics; evaluates the theoretical merits and deficiencies of consolidation of the British railroads under Chadwick's principle, an evaluation that applies to *any* implementation of Chadwick's plan; and examines the filiations between Chadwick and John Stuart Mill on the question of railroads and social control. We believe that a review of these issues seems especially timely given the precarious position of privately owned rail lines in the United States, and we conclude that Chadwick's principle should be given serious consideration if nationalization of railroads (or any other industry for that matter) becomes the choice of society. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 213–39. Auburn University, Alabama; Texas A & M University, College Station.

Heilbroner, R. L.—Modern Economics as a Chapter in the History of Economic Thought

Despite its remarkable development of analytic tools, the economics of the last half century is described as disappointing in comparison with the achievements of earlier periods. The disappointment stems from the failure to generate a large-scale gestalt comparable to those of medieval, mercantilist, Classical, Marxian, or marginalist thought. Modern economics has not identified a "hidden problem in material reproduction" to give depth or unity to its technical attainments. It is argued that the identification and elucidation of such hidden problems constitues the central objective of economics. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 192–98. New School for Social Research, New York.

Hennings, K. H.—George Darwin, Jevons, and the Rate of Interest

This article discusses a letter written by George Darwin to Jevons in 1873. It is shown that Darwin drew Jevons's attention to the fact that his definition of the rate of interest rests on a rather special assumption; that in the course of his discussion, Darwin related the rate of interest much more explicitly than Jevons had done to the internal rate of return of a time-consuming investment process; and that Darwin based the definition of a profitable investment project firmly on a cost-benefit comparison of net present values of expected costs and benefits. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 199–212. Technical University of Hanover.

Hettich, W.—Henry Simons on Taxation and the Economic System

The article examines Henry C. Simons's work on taxation and tax reform. It is shown that his proposals formed part of a well integrated philosophical framework with liberty and equality as primary values. The comprehensive tax base, his best-known contribution, was advanced as a "rule," *i.e.*, a way of limiting the power of governments to interfere in the economy. Recent criticisms of the concept have failed to take account of this point. Simons's work forms a valuable counterpart to the literature on optimal taxation, which derives its philosophical assumptions from utilitarianism. His ideas and approach continue to provide a useful basis for research on tax policy.

Nat. Tax J., March 1979, *32*(1), pp. 1–9. Carleton University, Ottawa.

Kurz, H. D.—Sraffa after Marx

In this review article on Ian Steedman's *Marx after Sraffa* it is argued that Steedman's interesting analysis is incomplete in the sense that it does not properly bring out the direct descendence of Sraffa's approach from Marx's: *Marx after Sraffa* lacks a satisfactory investigation of *Sraffa after Marx*. It is shown that Sraffa's surplus equations method can be viewed as the result of a critical investigation of Marx's theory of production prices; that values cannot be negative; and that the "Fundamental Marxian Theorem" holds also in the joint production case and is quite independent of the theory of commodity-values. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 52–70. University of Kiel, West Germany.

Liebermann, Y.—Elements in Talmudic Monetary Thought

Talmudic monetary thought is not only interesting but also includes an element absent from modern monetary systems, namely flexible internal exchange rates. Flexible internal exchange rates replace the interest rate as the major argument in the Talmudic money demand function, which is restricted by Jewish law from having a non-zero interest rate. The analysis of this system is preceded by a discussion of the functions and properties of means of payment as viewed by Talmudic authorities. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 254–70. Bar-Ilan University, Ramat-Gan, Israel.

Martin, D. T.—Alternative Views of Mengerian Entrepreneurship

A review of the historical development of entrepreneurial theory reveals a basic conflict between Joseph Schumpeter and Frank Knight with respect to their treatment of the entrepreneur found in the writing of Carl Menger, the founder of the Austrian School. It is this divergence of views that will be addressed and that the paper attempts to resolve. The alternative conceptions of Mengerian entrepreneurship are evaluated. The evidence suggests that Knight's view of the Mengerian order is incorrect, and that, to a very considerable extent, Knight would be more appropriately classified as a member of the Austrian School rather than a neoclassicist. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 271–85. University of Nebraska, Lincoln.

Milgate, M.—On the Origin of the Notion of "Intertemporal Equilibrium"

Evidence is advanced to show that this notion of equilibrium was developed in the 1920's and 1930's and not earlier as is sometimes thought; and that, once this is recognized, to the three names one might then naturally associate with this development (Erik Lindahl, Gunnar Myrdal, and John Hicks) must be added the name of Friedrich Hayek. It is argued also that an important part of the impetus for altering the notion of equilibrium in this way is to be found in the difficulties that the orthodox long-period theory of capital (conducted in terms of demand and supply) encountered outside one-commodity worlds. *Economia*, Feb. 1979, *46*(181), pp. 1–10. Trinity College, University of Cambridge.

Moody, R. E.—Economists and Economic Change

This paper examines briefly the role of economists and institutions in three economic periods differentiated by the exercise of authority and power in economic affairs: (1) the feudal and mercantile eras of John Locke and Adam Smith; (2) The classical laissez-faire period of the nineteenth and early twentieth centuries; and (3) The era of concentrated economic authority from the Great Depression to the present. In the latter era the contrasting methods of John R. Commons and John M. Keynes are examined. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 110–19. U.S. Department of Agriculture (retired).

Oakley, A.—Aspects of Marx's *Grundrisse* as Intellectual Foundations for a Major Theme of *Capital*

Marx's *Grundrisse* manuscripts contained the adumbration of his theories of value and surplus value and the category labor power from which he devised his theory of the essential nature of capitalist distribution. In this arti-

cle it is established that in the *Grundrisse* Marx did not fully elaborate the analytical implications of the necessary articulation between the *essential* categories of value/surplus value and the *phenomenal* categories of price/profit. But, even though the work was transitional in the evolution of the analysis found in *Capital*, it did contain a fundamental core of theory from which the later work was developed. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 286–302. University of Newcastle, New South Wales, Australia.

Rousseas, S.—Rosa Luxenburg and the Origins of Capitalist Catastrophe Theory

The transformations that capitalism has gone through have necessitated a revision and updating of some of the basic Marxian concepts—including the labor theory of value and the role of technology. The article concentrates on Rosa Luxemburg's theory of capital accumulation, her dispute with Michael Tugan-Baranovsky, and her critique of Marx's *Capital*. Luxemburg's shift from "exploitation" to "realization" as the key to capitalist society anticipated many of the later arguments over effective demand, capitalist catastrophe (as a *theoretical* limit), and imperialism. *J. Post Keynesian Econ.*, Summer, 1979, *1*(4), pp. 3–23. Vassar College.

036 Economic Methodology

Finn, D. R.—Objectivity in Economics: On the Choice of a Scientific Method

This paper argues that each economist chooses—consciously or unconsciously—a scientific method and that the choice among competing methods is made employing pre-scientific criteria which require a nonscientific justification to avoid circularity. The paper illustrates two such choices: by an orthodox economist (Milton Friedman) and a Marxian economist (Oskar Lange). In both cases it is demonstrated that in spite of each man's efforts to engage in an unbiased science, the fundamental outlines of each man's science correlate closely with the basic characteristics of each individual in society. Thus, although "objectivity" ought to be sought after, it cannot be seen as a simplistic separation of economic science from the economist's convictions about non-scientific issues. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 37–61. St. John's University, Collegeville, Minnesota.

040 Economic History

041 Economic History: General

Stolz, P.—Neue Wirtschaftsgeschichte und Neue Politische Oekonomie: Vom Vergleich zum Versuch einer Synthese (New Economic History and New Political Economy: From a Comparison to an Attempt of a Synthesis)

Public choice theory on the one hand deals with nonmarket decision-making, using, nevertheless, conceptions developed for the analysis of market behavior. New Economic History on the other hand investigates above all the market. Common to both approaches, however, is the tendency to "export" the tools of economic theory into new fields. There is a still more fundamental resemblance: When long-term processes in economic history are examined, it is often impossible to separate exogenous and endogenous variables. Since the theory of public choice goes beyond this barrier between institutional framework and economic variables, it meets the analytical needs of economic history, if the chief stress is not on equilibrium models. *Kyklos*, 1979, *32*(1/2), pp. 475–89 (German) University of Basle, Switzerland.

042 Economic History: North America (excluding Mexico)

Field, A. J.—Economic and Demographic Determinants of Educational Commitment: Massachusetts, 1855

More than half the variance in length of school session in a cross-section of 329 localities in Massachusetts in 1855 can be explained by the share of Irish in the town's population, the family per dwelling ratio, and a proxy for the share of male merchants over 15 in the population, all of which enter regression equations with strong positive coefficients. This paper considers what these results may tell us about a number of hypotheses that link industrialization and educational revitalization in antebellum Massachusetts, discusses independent confirmation of these basic relationships, and concludes with a more general discussion of

the implications of this Massachusetts evidence. *J. Econ. Hist.*, June 1979, *39*(2), pp. 439–59. Stanford University.

Fraundorf, M. N.—The Labor Force Participation of Turn-of-the-Century Married Women

The standard modern model of married women's labor force participation is modified because turn-of-the-century families had the alternatives of substituting children for the mother in the labor force and of taking in paying boarders. The modified model explained 1901 participation rates quite well. Participation rates were significantly related (negatively) to the number of older children (potential workers), but not to the number of young children. In addition, the availability of jobs was more important than high wages in inducing women to seek work. Other family income, the male unemployment rate, and literacy were also significant. *J. Econ. Hist.*, June 1979, *39*(2), pp. 401–18. Oregon State University, Corvallis.

Grampp, W. D.—Adam Smith and the American Revolutionists

Like Smith, the men who made the American Revolution and wrote the Constitution placed power before wealth and valued freedom as a means as well as an end. His nationalism and utilitarianism illuminate the thinking of the Americans, explain why their belief in the free market was qualified just as his was, and show the consistency of their ideas of economic policy with his. *Hist. Polit. Econ.*, Summer 1979, *11*(2), pp. 179–91. University of Illinois, Chicago.

043 Economic History: Ancient and Medieval (until 1453)

Berlow, R. K.—The Sailing of the "Saint Esprit"

The *Saint Esprit* was a merchant ship that sailed from the harbor of Marseilles in the spring of 1248, bound for Acre. One hundred and fifty contracts relating directly to this voyage are preserved in the notarial records. This article attempts to reconstruct the circumstances surrounding this venture, and analyzes the statistical data available with regard to passengers, investors, and cargo. The general picture that emerges from studying the total venture offers a new perspective on medieval business. *J. Econ. Hist.*, June 1979, *39*(2), pp. 345–62. Touro College, New York.

044 Economic History: Europe

Broad, J. P. F.—Gentry Finances and the Civil War: The Case of the Buckinghamshire Verneys

A general survey, with detailed evidence from Buckinghamshire gentry families, suggests that there was a severe but short-term financial crisis during the English Civil War, reducing income and allowing debts to mount. Pre-existing debts determined the extent of financial losses more than political allegience. Sequestration and composition were irritants, but not central to the crisis. Postwar revival was helped by widespread debt reductions and rising rents and land prices. For the Verneys, the key to long-term recovery lay in a combination of demographic factors, marriage policy, and links with the commercial world. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 183–200. Polytechnic of North London.

Eltis, D.—The British Contribution to the Nineteenth-Century Transatlantic Slave Trade

Though the British suppressed their own trade and attempted to suppress that of other nations in the years after 1807, British merchants continued to supply goods and credit to foreign slave merchants. The paper describes the nature of this involvement, estimates the cost advantage of British goods and credit over the next best alternatives available to the slave trader and, with the aid of demand and supply analysis, concludes that 80,000 fewer slaves would have been carried between 1821–43 in the absence of British involvement. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 211–27. Algonquin College, Ottawa.

Gregory, P. R.—The Russian Balance of Payments, the Gold Standard and Monetary Policy: A Historical Example of Foreign Capital Movements

This paper reports new calculations of foreign investment in Russia between 1881 and 1913. As the major recipient of foreign capital

under the gold standard, Russia provides an ideal case study of capital flows among countries. The conclusions are that the influx of foreign investment into Russia following convertibility was much more substantial than the early estimates suggested, and that the Russian growth rate was raised by about 0.5 percent annually as a consequence of the gold standard. The major cost of achieving convertibility was that two-thirds of official borrowing abroad between 1885 and 1897 was used to acquire gold reserves, but the ensuing growth benefits which are estimated far outweigh these costs. The Russian case confirms the standard portfolio theory of capital movements, and the relationship between the demand and supply of fiat money explains observed variations in the exchange rate. *J. Econ. Hist.*, June 1979, *39*(2), pp. 379–99. University of Houston.

Kennedy, L.—Traders in the Irish Rural Economy, 1880–1914

The role and number of intermediaries in Irish and other rural economies has frequently been the subject of critical comment. Criticism, in the Irish case, focused mainly on the apparent multiplicity of middlemen and their alleged ability to inflate distributive margins so as to support an uneconomical level of traders. These propositions are firmly rejected on the basis of a consideration of such issues as shifts in the occupational structure, the relationship between prices and density of traders, and the market forms typically present in the rural economy in this period. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 201–10. The Queen's University of Belfast.

McClure, P.—Patterns of Migration in the Late Middle Ages: The Evidence of English Place-Name Surnames

For various reasons historians have been somewhat shy of using surnames from English place names to calculate distances of migration in late medieval England. This article discusses the methodological problems, reviews previous work, and proposes a more rigorous method, which is illustrated by statistical analyses of fourteenth-century place-name surnames in rural Nottinghamshire and the towns of Nottingham, Leicester, Norwich, York, and London. Contrasting patterns of immigration are evidenced in village and town, in towns of different size and situation, and in York before and after the Black Death. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 167–82. University of Hull, England.

Overton, M.—Estimating Crop Yields from Probate Inventories: An Example from East Anglia, 1585–1735

There is at present no series of crop yields available for early modern England. This paper describes a method for calculating estimates of grain yields in bushels per acre, using data derived from English probate inventories. Results are presented of 10-year average yields for wheat, rye, barley, oats, and peas for the two counties of Norfolk and Suffolk during 1587–98, 1628–40, and 1660–1735. These results are compared with other yield figures for the periods before and after these dates, and used to revise existing estimates of the progress of productivity changes. *J. Econ. Hist.*, June 1979, *39*(2), pp. 363–78. Emmanuel College, University of Cambridge.

Vyas, A.—Primary Accumulation in the USSR Revisited

Primary accumulation in the U.S.S.R. during the First Five Year Plan period took place in ways very different from what was envisaged by E. Preobrazhensky. The paper aims to assess a proposition of the Soviet economic historian A. A. Barsov, who argues that, while the peasantry played an important role in the process of industrialization, the bulk of accumulation necessary for socialist industrialization was created by the working class. In terms of a model of accumulation, it is shown that there was a drastic decline in urban real wages—a feature that permitted a very high rate of accumulation during the period. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 119–30. Jawarhalal Nehru University, New Delhi.

046 Economic History: Africa

Chamberlin, C.—Bulk Exports, Trade Tiers, Regulation, and Development: An Economic Approach to the Study of West Africa's "Legitimate Trade"

During the nineteenth century the export of bulk commodities from West Africa expanded at the expense of slave exports. Re-

search has focused on the political implications of the expansion of so-called "legitimate trade" rather than on its economic character. In the interest of an economic approach, new terminology and a conceptual framework are proposed and then applied to a historical problem—the levels of competition prevailing in the African trader networks serving the coastal ports. The conclusions of this study are related to the issue of the historical origins of African underdevelopment. *J. Econ. Hist.*, June 1979, *39*(2), pp. 419–38. American Enterprise Institute for Public Policy Research, Washington, D.C.

050 Economic Systems

051 Capitalist Economic Systems

Ault, D. E. and Rutman, G. L.—The Development of Individual Rights to Property in Tribal Africa

The purpose of this study is to examine the effects of changing economic conditions, especially the increasing scarcity of land, on the evolution of property rights systems in tribal Africa. Communal property rights systems may allocate resources efficiently when land price is zero. When, however, the demand for land exceeds the supply at zero price, communal property rights systems lead to externalities that result in the misallocation of resources. Using the observations of British Colonial Administrators and others who enforced the land tenure customs and laws or conducted field studies in tropical Africa prior to the independence period, this study shows that individual rights to property always existed whenver the resource was scarce, for example, wife rights, and developed for the use of land as land became scarce. *J. Law Econ.*, April 1979, *22*(1), pp. 163–82. Southern Illinois University, Edwardsville.

Beltran-Del-Rio, A.; Hamrin, R. D. and Speiser, S. M.—Increasing Capitalism's Capitalists—A Challenge for Economists

This article explores various schemes for expanding capital ownership, including Employee Stock Ownership Plans (ESOP) and Tax Reform Act Stock Ownership Plan (TRASOP), which are criticized because they benefit those least in need. The Financed Capitalist Plan (FCP) suggested by Louis O. Kelso and Mortimer Adler in 1958, is explained in detail. It would permit millions of families to become owners of corporate stock through self-liquidating government guarantees of credit. Reviews current legislative interest in the FCP, including the General Stock Ownership Plan (GSOP) scheme originated by Senator Mike Gravel (Alaska), which became Section 201 of the Revenue Act of 1978. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 41–54. Wharton Econometric Forecasting Associates, Philadelphia.

Wolff, E. N.—The Rate of Surplus Value, the Organic Composition, and the General Rate of Profit in the U.S. Economy, 1947–67

This paper analyzes the movement of the rate of profit in the U.S. over the 1947–67 period from a Marxian perspective. It begins with an analysis of Marx's "law of the tendency of the rate of profit to fall," which states that over time the organic composition of capital will tend to rise, thereby causing Marx's so-called general rate of profit to fall. It is demonstrated that this law has several serious theoretical flaws. Moreover, the evidence for this period provides no empirical support for the law. However, Marx's analysis does provide several key insights about the determinants of the movement of the rate of profit. In particular, our analysis reveals that the movement of the general rate of profit is largely determined by the rate of increase of labor productivity and the movement of the real wage. In the 1947–58 period, when the real wage increased faster than labor productivity, the general rate of profit fell. In the 1958–67 period, when the converse was true, the rate of profit rose. One surprising result was that the movement of the profit rate was independent of the change of the capital-labor ratio. *Amer. Econ. Rev.*, *69*(3), June 1979, pp. 329–41. New York University.

100 Economic Growth; Development; Planning; Fluctuations

110 Economic Growth; Development; and Planning Theory and Policy

111 Economic Growth Theory and Models

Calvo, G. A.—Optimal Population and Capital over Time: The Maximin Perspective

This is a study of the problem of a central planning agency that can control the size of future populations, capital accumulation, and allocation of consumption across individuals, and whose objective is to maximize the welfare of the generations living at the beginning of the plan, subject to Rawlsian principles of inter- and intra-generational justice and standard technological constraints. One of the most interesting results is that if there is a unique "interior" optimal plan, it can be decentralized with no government intervention if the rate of population growth is set at the optimal level. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 59–71. Columbia University.

Cornwall, J.—Economic Growth: Two Paradigms

The neoclassical and post Keynesian analysis of growth are compared and evaluated. It is argued that post Keynesian analysis provides the only fruitful manner in which to explain the important aspects of growth, primarily because neoclassical growth analysis has been unconcerned with developing models that could explain real world growth processes. Rather, it's attention was directed towards a limited number of mathematical problems. Why the neoclassical approach to growth has so dominated macrodynamics in the postwar period in spite of its shortcomings is attributed to a lack of professional standards together with a desire, by economists, to be disassociated from the other (soft) social sciences. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 69–90. Dalhousie University, Halifax, Nova Scotia.

Hsiao, F. S. T.—Relative Stability of Balanced Growth and Asymptote Criterion in Neoclassical Models

The main purpose of this paper is to discuss fully the properties of relative stability in the context of balanced growth under constant returns to scale. A simpler definition of relative stability in terms of polar coordinates is introduced in this paper. It turns out and is rigorously proved that our simpler definition is equivalent to the well-known definition used by Robert Solow and Paul Samuelson (1953) in the context of our model. A distance function for the nonnormalized efficient path is introduced. The "asymptote criterion" is then derived to distinguish three cases of the behavior of the efficient paths in a neighborhood of the balanced growth path. The balanced growth path is called *asymptotically, ultimately*, or *comparatively relatively stable* if the asymptote criterion is negative, positive, or zero, respectively. Lastly, we have shown that in Solow's neoclassical growth model, the balanced growth path, if it exists for all positive factors of production, is *ultimately* relatively stable, while for a model with an endogeneous labor growth rate and with a savings function homogeneous in income and capital, the balanced growth path may be *asymptotically* relatively stable. *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 50–59. University of Colorado, Boulder.

Laing, N. F.—Technological Uncertainty and the Pure Theory of Optimum Growth

This paper is about the implication of technological uncertainty in the form of ignorance (due to ignorance of future advances in the knowledge of scientific principles) for optimum growth theory in general. The story has been taken a certain way in the author's book of 1978. This work is first summarized with greater clarity than was originally possible. Then some of the details of the method, especially those concerning the treatment of technical progress, are explained. Next alternative methods are considered. It is concluded that in all cases the main departure from orthodoxy is a method of determining the optimum degree of animal spirits to adopt when dealing with the formulation of policy for the long run. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 131–37. University of Adelaide, South Australia.

Schefold, B.—Capital, Growth, and Definitions of Technical Progress

Theories of growth (based on neutral technical progress) and capital theory (emphasizing drastic differences of techniques in static comparisons) are inconsistent not only because the surrogate production function has been invalidated but this paper shows that capital theory is in its abstract generality even incompatible with *any* theory of growth and progress so that it becomes necessary to represent the latter by specifying different concrete forms of tech-

nical change at the micro level in such a way that their macroeconomic effects on the productivity of labor can be analyzed by means of a classical theory of prices. *Kyklos*, 1979, *32*(1/2), pp. 236–50. J. W. Goethe-University, Frankfurt.

Streissler, E.—Growth Models as Diffusion Processes I: Theoretical Foundations

How can one discriminate between different types of growth models? This paper tries to lay the empirical foundation of testing them by examining the time sequence of the variance of the logarithm of gross national product, calculated over many countries. Growth models are reformulated as diffusion processes of log GNP over time. It is shown that demand dependent growth models are not well formulated: no unique diffusion pattern corresponds to them. Supply oriented models can be assigned to particular diffusion patterns. The variance of log GNP should with neoclassical growth models be constant over time; with increasing returns to scale models move proportionally to the first power; and with classical growth models proper (for instance investment dependent models), with the second power of time. *Kyklos*, 1979, *32*(1/2), pp. 251–69. University of Vienna.

112 Economic Development Models and Theories

Blümle, G.—Wirtschaftliche Entwicklung und personelle Einkommensverteilung in Entwicklungsländern (Economic Development and Personal Income Distribution in Developing Countries)

The assumption that an equitable distribution of income is imcompatible with economic growth in developing countries is questioned. Several points not included in highly aggregated macroeconomic growth models appear to place the incompatibility assumption in jeopardy. Empirical studies largely agree. Kuznets's thesis, generally confirmed, that the development process exhibits, along with a secular increase in per capita income, an initial increase followed by a later decrease in the inequality of incomes, is not viewed in a direct causality context but rather is interpreted as an independent phenomenon accompanying the development process. *Kyklos*, 1979, *32* (1/2), pp. 145–61 (German). University of Freiburg, West Germany.

Giersch, H.—Märkte und Unternehmen in der wachsenden Weltwirtschaft (Markets and Business Enterprises in the Growing World Economy)

This short paper describes the essentials of a paradigm for understanding world economic growth, which is based on the writings of J. H. von Thünen, who dealt with economic space, and Joseph Schumpeter, who stressed economic evolution. The link between both is "locational innovation," *i.e.*, a shift of the locus of production to countries where efficiency wages are lower. It takes place when product innovation raises real wages and firms cannot defend their old location by process innovation. Locational innovation benefits LDC's; it can more easily take place within firms, which thus become "Transnationals," than through a market mechanism with high information and transaction costs. *Kyklos*, 1979, *32*(1/2), pp. 25–35 (German). University of Kiel, West Germany.

113 Economic Planning Theory and Policy

Drechsler, L.—Problems of the Measurement and Planning of Efficiency in Hungary

In national economic planning efficiency is of key importance. However, a comprehensive system of macroeconomic indicators independent from the actual price system could not have been set up. Efficiency of material production is measured by forms of new value, but many factors cannot be expressed in money terms. Investment efficiency is measured also by the specific cost of earning foreign exchange through production. In the present methodology, the reliability of computations is continuously improved. In order that efficiency be awarded a greater role in economic decisions, the enterprise interests have to be brought closer to those of the national economy. *Acta. Oecon.*, 1977, *19*(3–4), pp. 343–59. Institute of Economic Planning, National Planning Office, Budapest.

Németh, K.—Long-Term Foreign Economic Policy and Development of the Production Structure in Hungary

The world economic changes in recent years had an especially unfavorable effect on small countries with open economies, such as Hungary. In order to counter them, the October

1977 resolution of the Hungarian Socialist Workers' Party pointed out that the deterioration of the terms of trade can only be reversed through developing the production structure; through higher efficiency; coordinated, dynamic development of the agriculture and food industries; and more efficient scientific research and development. These tasks have to be fulfilled simultaneously with the development of economic cooperation with socialist countries and the expansion of economic relations with non-socialist countries. The successful implementation of these measures also requires the improvement of economic control and management. *Acta. Oecon.*, 1977, *19*(3–4), pp. 237–53. Hungarian Socialist Workers' Party.

120 Country Studies

121 Economic Studies of Less Industrialized Countries

Bálint, J.—Lenin o sootnosheniy ekonomiki i politiki (Lenin about the Relationship between Economy and Policy)

Starting from Lenin's teaching about the relationship between politics and economy, their coordination in the practice of the Hungarian Socialist Workers' Party is analyzed. As a result of attributing primary importance to national economic equilibrium, the shortage-economy could have been eliminated by the mid-1960's, and a continuous increase of production was achieved parallel with collectivization. The mid-1960's bore out the necessity of gearing up from extensive to intensive development. In order to facilitate this process, a new economic mechanism was introduced in 1968. The topical question of economic policy now is the adjustment to the new, disadvantageous conditions in the world economy. *Acta. Oecon.*, 1977, *19*(3–4), pp. 255–75 (Russian). Central Statistical Office, Budapest.

130 Economic Fluctuations; Forecasting; Stabilization; and Inflation

132 Economic Forecasting and Econometric Models

Arzac, E. R. and Wilkinson, M.—A Quarterly Econometric Model of United States Livestock and Feed Grain Markets and Some of Its Policy Implications

This paper discusses structural equations, forecasting properties, dynamic characteristics, and economic policy implications of a quarterly econometric model of U.S. livestock and feed grain markets. Quarterly, semiannual, and annual endogenous variables are incorporated by allowing individual structural equations to be estimated and to enter into the solution of the model with different periodicities. Commodity prices are determined by market equilibrium conditions rather than by autoregressive and other time-series techniques. Dynamic multipliers give the effect of changes in corn exports, beef imports, government grain stocks, corn yield, consumer income, and support price for corn on producer/retail prices and acreage planted. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 297–308. Columbia University.

Ban, K.—A Comparison of Alternative Estimation Methods for Large Scale Econometric Models: A Case Study of an Econometric Model of Japan

This paper investigates the relative performances of alternative estimation methods for large scale econometric models using the Kyoto University Model. The root mean square error (RMSE) criterion indicates that ordinary least squares and two-stage least squares (TSLS) classes give the best performances in the one-period prediction over the within-sample periods. On the other hand, the limited information maximum likelihood (LIML) class gives the best performances in the one-period prediction over the post-sample periods. Since the RMSE criterion is favorable to TSLS class in the case of the within-sample prediction, the results give sufficient evidence to contend that LIML class is superior in our model. *Econ. Stud. Quart.*, April 1979, *30*(1), pp. 10–29. University of Tsukuba, Japan.

de Bever, L.; Foot, D. K.; Helliwell, J. F.; Jump, G. V.; Maxwell, T.; Sawyer, J. A. and Waslander, H. E. L.—Dynamic Properties of Four Canadian Macroeconomic Models: A Collaborative Research Project

The following six papers analyze and compare the dynamic government expenditure multipliers of four major macro-econometric models (CANDIDE, QFM, TRACE, and RDX2) of the Canadian economy. Since the objective was to keep the model structure as close as possible to the form in which they are actually used, the experimental design concentrates on standardizing the presentation of results and the conditions under which the simulations were performed. By developing the methodology for decomposing aggregate multipliers into sectoral contributions, the authors were able to attribute the difference in the multipliers to the different sectoral properties. *Can. J. Econ.*, May 1979, *12*(2), pp. 133–94. Bank of Canada, Ottawa; University of Toronto; University of British Columbia, Vancouver; University of Toronto; Bank of Canada and Conference Board in Canada; University of Toronto; Economic Council of Canada.

Bodkin, R. G.; Cano-Lamy, V.; Chow, E.; Fortin, J.; Gunaratne, L.; Kuiper, J. and Serrurier, C.—Ex ante Forecasting with Several Econometric Models of the Canadian Economy

In this paper, the record of *ex ante* (strictly in advance of the events studied) forecasts in several Canadian econometric models is compared with realizations, for several key macroeconomic aggregates. The models studied were AERIC (the model of the Conference Board), the Quarterly Forecasting Model of the University of Toronto, and CANDIDE, while the key variables, related to real national income, price levels, and unemployment. It was found that some phenomena and some periods are easier to forecast than others; the difficulties of forecasting wage and price developments were noted, which in turn calls into question the standard post-Keynesian paradigm of this sector of the economy. In the comparison of models, the qualified conclusion was that the AERIC model-users did somewhat better than the other groups. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 16–40. University of Ottawa.

Neftçi, S. N.—Modeling the Price Side of Econometric Models: An Analysis of the Underlying Hypotheses

Using a nonlinear vector autoregression, this paper investigates the dynamic interactions between a set of disaggregated price series. A hypothesis, positing that all sectoral prices are a function of a "major price index," is tested, and the way this hypothesis is used in econometric models is discussed. The model is based upon the theory of covariance stationary time series. Nonlinear estimation procedures are used. *J. Econometrics*, April 1979, *10*(1), pp. 71–84. George Washington University, Washington, D.C.

Osborn, D. R.—National Institute Gross Output Forecasts: A Comparison with US Performance

This article aims to compare the National Institute's forecasting performance with that of U.S. forecasters. Because of the magnitude of this task, we restrict our attention to forecasts of the principal output measure in each country—real gross domestic product in the United Kingdom and real gross national product in the United States. Results for U.S. forecasters are taken from the detailed study by Stephen K. McNees (1975), where there is also information on the methods employed by these forecasters. *Nat. Inst. Econ. Rev.*, May 1979, (88), pp. 40–49. University of Manchester, England.

Osborn, D. R. and Teal, F.—An Assessment and Comparison of Two NIESR Econometric Model Forecasts

This article presents a methodology for decomposing *ex ante* forecasting error into exogenous variable error, data revision error, model error, and judgement error. This method is applied to the forecasts made by the National Institute in February 1975 and February 1976. The first section describes the methodology including the NIESR forecasting procedure. Then the NIESR model (with some of its problems) is discussed together with the data used in the study. The method for decomposing the forecasting error to 1975 is applied and a similar analysis presented for 1976. Some conclusions and a summary complete the article. *Nat. Inst. Econ. Rev.*, May 1979, (88), pp. 50–62. University of Manchester, England; University of London.

Personick, V. A.—Industry Output and Employment: BLS Projections to 1990

This article presents projections for about 150 industries for the years 1980, 1985, and 1990. The macroeconomic assumptions underlying the industry estimates are also summarized. The major findings include generally slower employment growth in the next decade compared with the previous two decades, and a reversal of the trend toward faster job growth for the government sector compared with the private sector. Industries projected to have the fastest employment growth include medical care services, other transportation equipment (such as mobile homes), and miscellaneous business services. Job cutbacks are expected in the private household sector, agriculture, and some food products industries. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 3–14. Bureau of Labor Statistics, Washington, D.C.

133 General Outlook and Stabilization Theories and Policies

Auld, D. A. L.; Christofides, L. N.; Swidinsky, R. and Wilton, D. A.—The Impact of the Anti-Inflation Board on Negotiated Wage Settlements

The main objective of this paper is to analyze the impact of the Anti-Inflation Board (AIB) on wage settlements that were negotiated prior to any AIB recommended wage rollbacks. During the first two years of AIB wage controls, union wage settlements in the private and public sectors have been between 2½ and 3½ percentage points per annum lower than the pre-AIB wage structure would predict. By the third quarter of 1977 the cumulative wage effect of the AIB is in the order of 3.2 percent in the private and 4.6 percent in the public sectors. Using the framework developed by Richard Lipsey and J. M. Parkin, it is found that the AIB wage guidelines were about 50 percent effective in restraining wage increases (prior to any AIB wage rollbacks). *Can. J. Econ.*, May 1979, *12*(2), pp. 195–213. University of Guelph, Ontario.

Borner, S.—Who Has the Right Policy Perspective, the OECD or Its Monetarist Critics?

The paper presents an analysis of the empirical and theoretical case against OECD's policy perspective put forward by the "Shadow European Economic Policy Committee" (a group of monetarist economists). The main elements of the "Monetarist-Keynesian" conflict are discussed with regard to today's real-world policy problems. Special attention is directed at labor market phenomena and the apparent success story of Swiss stabilization policies. The ideological and political nature of the criticism voiced by OECD's critics is exposed. The inadequacy to deal with the special nature of the labor market and the political processes are the main arguments for dismissing the monetarist counter-advice. *Kyklos*, 1979, *32* (1/2), pp. 285–306. University of Basle, Switzerland.

Brown, W.—Engineering Wages and the Social Contract, 1975–1977

An empirical analysis of the impact of the first two phases of the Social Contract incomes policy in Britain upon pay increases and differentials in the engineering industry. The experience of a group of firms appears representative of the industry as a whole. It suggests the general response to the policy was one of flexible conformity. Negotiators at the workplace used this flexibility to resist the redistributive bias of the policy. It is argued that this confirms the theory that the compression of occupational pay differentials is primarily a response to inflation. *Oxford Bull. Econ. Statist.*, Feb. 1979, *41*(1), pp. 51–61. National Institute of Labour Studies, The Flinders University of South Australia.

Brown, W. M.—Employment vs. Unemployment Data as Macro-Policy Guides

The familiar unemployment rate expresses the total number of persons unemployed as a percentage of the "labor force" (employed plus unemployed) and is widely used in U.S. macroeconomic models. Yet the unemployment rate is an unreliable indicator of the *level* of employment and economic activity, owing mainly to the unsuitability of the labor force as the universe or measurement base. More attention should be focused instead on the employment-population ratio. Moreover, for measuring *changes* in activity, series on percent changes in employment give a much

closer fit to real GNP movements than does a series derived from the unemployment rate. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 70–82. Department of the Treasury, Washington, D.C.

Buiter, W. H. and Owen, R. F.—How Successful Has Stabilization Policy been in the Netherlands? A Neo-Keynesian Perspective

A modern Keynesian perspective is offered on the conduct of monetary, fiscal, and exchange rate policy in the Netherlands during the period 1960–76. A small open macroeconomic model is estimated and simulated under alternative policy rules. Striking features are a strong real balance effect on consumer spending and a significant contribution of exchange rate changes to domestic inflation. Actual policy performs no better as regards the achievement of internal and external balance than simple fixed rules. Both actual policy and fixed rules are dominated by instrument values derived from an explicit optimal stabilization approach. *De Economist*, 1979, *127*(1), pp. 58–104. Princeton University.

Colander, D.—Incomes Policies: MIP, WIPP, and TIP

This paper provides a brief description of Market Based Incomes Policy (MIP), whose central idea is to use the market to "solve" the inflation problem by establishing property rights in prices. Thus, anyone who raises their price must buy the right from someone who lowers their price. Two MIP proposals are discussed: Abba Lerner's Wage Increase Permit Plan (WIPP) and Colander's Free Market Solution, and both are compared to tax based incomes policies. It is suggested that Lerner's claims that MIP involves neither efficiency loss nor litigational problems are too strong and that any practical MIP proposals will experience both. However, the theoretical ideas are sound, and with further work a practical MIP proposal may be possible. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 91–100. University of Oxford.

Fusfeld, D. R.—The Next Great Depression

The American economy has entered a relative stagnation phase. The forces leading to economic expansion have largely spent themselves, and basic cost and labor market relationships now tend to inhibit rather than promote economic growth. In addition, several recent developments make the economy particularly vulnerable: escalating inflation, large disparity between market rates of interest and the real rate of return on capital, and the relatively uncontrolled expansion of the Eurocredit system. Economic policies that formerly tended to stabilize the economy now have a destabilizing effect. A great depression could come at any time. *Neb. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 3–13. University of Michigan, Ann Arbor.

Jager, H.—The Impact of the Exchange Rate System on the Effectiveness and Implementation of Stabilization Policy in the Netherlands

An economic model is presented with the most important features a parameter indicating the exchange rate flexibility, the splitting of the internal objective into domestic output and the average price level, the distinction between the price of domestic production and the average price level, and the price indexation of nominal wages. The stability conditions of this model are developed. Based on a qualitative analysis, the direction of the impact of policy instruments on objectives are determined and used for obtaining rules and conditions for stable (de)centralized policies under fixed and managed floating exchange rates. These are confronted with empirical results about Dutch adjustment policy. *De Economist*, 1979, *127*(1), pp. 143–86. University of Groningen, The Netherlands.

Knoester, A.—On Monetary and Fiscal Policy in an Open Economy

This paper deals with some aspects of monetary and fiscal policy in an open economy. For this purpose we base our conclusions on an empirical macro-model for the Netherlands for the years 1953 through 1975. For monetary policy the principal guidelines seem be the external position and the inflation rate. The desired composition of expenditures and the rate of economic growth seem to be the principal guidelines for fiscal policy. *De Economist*, 1979,

127(1), pp. 105–42. Erasmus University, Rotterdam.

Pierson, J. H. G.—EPI: Economic Performance Insurance

The federal government should guarantee full employment for intrinsic reasons and to help eliminate waste, poverty, discrimination, personality destruction, interest-group irresponsibility, and trade restrictionism. "Economic performance insurance" (EPI) could accomplish this—not in conflict with, but as an umbrella over, other stabilization policies. The President would recommend and Congress decide annually on lower and upper limits to employment and consumer spending and on contingent measures to be activated without further debate whenever either total threatened to go below or above its pre-set limits. Besides preventing deflation, this would virtually stop demand-pull inflation and strongly combat cost-push inflation. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 83–95. Greenwich, Connecticut.

Reid, F.—The Effect of Controls on the Rate of Wage Change in Canada

This paper develops a model to explain new wage settlements in Canadian manufacturing and employs the model to assess the direct effect of controls. The estimates indicate that the average effect over three years of controls is that wage settlements were four and one-half percentage points lower than the rate that would have occurred without controls. The estimated *effectiveness coefficient* indicates that the reduction due to controls was approximately 0.78 of the gap between Anti-Inflation Board guideline and the rate of wage change that would have occurred without controls. *Can. J. Econ.*, May 1979, *12*(2), pp. 214–27. University of Toronto.

Riese, H.—Theoretische Grundlagen stabilitätspolitischer Kontroversen (The Theoretical Foundations of Stabilization Controversies)

The present dispute between fiscalism and monetarism is primarily moved by theoretical problems and their general empirical foundations. The question, however, whether the economic instability of Western countries since the mid of the sixties causes a new historical quality, which makes it impossible to solve the dispute between neoclassical and Keynesian economics in a general way, retires into the backround. This article has the objective of examining the theoretical foundations of different historical phases of the economy of Western Germany. Three phases are distinguishable, called the phases of stability, instability, and crisis. Their existence is impressed on theoretical fundamentals, which correspond with Keynes's *Treatise*, neoclassics, and Keynes's *General Theory*. It seems that economic policy cannot control these phases, but has to accept them. This makes also a target-means-founded theory of economic policy questionable. *Kyklos*, 1979, *32*(1/2), pp. 219–35 (German). Free University of Berlin.

Seidman, L. S.—TIP: Feasibility and Equity

To combat stagflation, a "tax-based incomes policy (TIP)" would use tax incentives, instead of persuasion or controls, to reduce wage increases, and therefore, cost increases and price increases. It has become evident that the construction of a "TIP package" must weigh trade-offs among administrative feasibility, equity, incentive strength, and allocative efficiency. This paper explains these trade-offs, and sets out a TIP package that balances these competing objectives, giving special weight to administrative feasibility and equity. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 24–37. University of Pennsylvania.

134 Inflation and Deflation

Borum, J. D.—Wage Increases of 1978 Absorbed by Inflation

Pay increases, as measured by the Bureau of Labor Statistics' Employment Cost Index, averaged 7.7 percent in 1978, up slightly from 7 percent in 1977. Most other wage measures show large increases for 1978; however, when adjusted for rising prices, the gains were not so large. In fact, two measures, the Hourly Earnings Index and spendable weekly earnings actually declined. Even workers covered by cost-of-living adjustments were not fully protected from inflation. For the first time since 1974, pay increases triggered by escalator

clauses were less than the rise in the Consumer Price Index. *Mon. Lab. Rev.*, June 1979, *102*(6), pp. 10–13. Bureau of Labor Statistics, Washington, D.C.

Csikós-Nagy, B.—Inflation Theory and Anti-Inflation Policy

After a brief review to the coining of the term, the evolution of today's notion of inflation is traced through the history of economic thought. Treating present day inflation, analyzes the anti-inflationary policy of socialist countries and introduces the methods of planned price rises. Against this, discusses the different degrees of anti-inflationary policy of capitalist countries: anti-cyclical economic policy, respecting the principal of market conformity, and price and incomes policy, incorporating direct regulators into the market mechanism. Finally, analyzes the open and repressed forms of inflation. *Acta. Oecon.*, 1977, *19*(3-4), pp. 299–317. National Board of Materials and Prices, Budapest.

Duck, N. W. and Zis, G.—The Natural Rate Hypothesis, Policy Rules, and Fixed Exchange Rates

This paper builds a model in which, given a system of fixed exchange rates and perfect arbitrage, the world inflation rate, common to all countries, is determined by world excess demand and expected world inflation. World excess demand is, in this model, uniquely distributed across countries; the individual country's ability to influence the world rate of inflation depends upon its size relative to the world. It is shown that to apply the natural rate of unemployment hypothesis to a country's experience while ignoring exchange rate considerations can result in misleading policy prescriptions. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 36–46. University of Bristol; University of Salford, England.

Fama, E. F. and Schwert, G. W.—Inflation, Interest, and Relative Prices.

In setting interest rates on treasury bills, the market appears to respond only to the common part of the expected inflation rates of different goods. However, there are seasonals in expected inflation rates that are different for different goods. We suggest that these differential seasonals reflect real costs of providing different goods to the market at different times of the year and hence are properly ignored by the market in setting interest rates. Finally, there is increasing similarity in the movement of the unexpected inflation rates of different goods for longer measurement intervals. In part, we interpret this as the result of a gradual reallocation of resources in response to surprise shifts in supply or demand conditions. The tests use data for the U.S. Consumer Price Index and its major subcomponents from 1953 to 1977. *J. Bus.*, April 1979, *52*(2), pp. 183–209. University of Chicago; University of Rochester.

Ferguson, B. L. and Gupta, K. L.—On the Dynamics of Inflation and Unemployment in a Quantity Theory Framework

This paper is an attempt to examine the dynamics of inflation and unemployment in a model which, unlike most of the literature in this area, allows for disequilibrium in the money market. Implications of this variation are examined for stability and for variety of feedback rules. *Economica*, Feb. 1979, *46*(181), pp. 51–59. Australian National University, Canberra; University of Alberta, Edmonton.

Gahlen, B.—Preis- und Mengeneffekte in kurz- und lang-fristiger Analyse (The Effects of Price and Quantity in a Short- and Long-Term Analysis)

To explain the joint existence of unemployment and inflation (stagflation), some basic questions in economic theory must be reconsidered, such as the relationship between microeconomic and macroeconomic and short-run and long-run theory. First, a theoretical and empirical analysis of price and quantity adjustments of demand shifts on an aggregate as well as sectoral level is suggested. Secondly, to explain the long range growth of prices and quantities, the supply side and the actual stabilization policy have to be encompassed in the analysis. Of major importance is the hypothesis of the struggle for income distribution in this respect. *Kyklos*, 1979, *32*(1/2), pp. 162–76 (German). University of Augsburg, West Germany.

Goodman, D. E. and McMahon, W. W.—Predicting Inflation Rates with Changing Oil Prices

This article estimates the effect of higher crude-oil prices on the inflation rate in the United States. It does so by estimating a price equation, within a model of wage-price interaction, that contains a term to capture the inflationary impact of crude-oil prices. This term uses a third-degree polynomial distributed lag of four quarters that allows for immediate and delayed impacts as crude-oil prices affect gasoline and production costs. The net effect on inflation of oil-price changes in simulations finds that OPEC-announced 1979 oil-price increases add .9 and deregulation of domestic crude oil would add another .6 to .7 percentage points to the inflation rate. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 35–46. University of Puget Sound, Tacoma; University of Illinois.

Howell, C.; Thomas, W. and Lamb, E.—First-Quarter Food and Fuel Prices Propel Inflation Rate to 5-Year High

The rate of inflation in the United States accelerated along a broad front during the first 3 months of 1979, as both retail and producer prices rose more rapidly than at any time since 1974. Higher prices for foods and fuels accounted for much of the steep first-quarter advances. Increases in cattle prices were largely responsible for the rise in food-related prices, while the interruption of Iranian oil exports and higher OPEC crude oil postings led to sharp advances in petroleum-related fuels. The opening months of the year also witnessed a marked speedup in the rate of inflation for a broad range of products other than foods and fuels, such as new cars and trucks, metal, chemicals, and leather. *Mon. Lab. Rev.*, June 1979, *102*(6), pp. 3–9. Bureau of Labor Statistics, Washington, D.C.

Park, U. K.—Inter-Industry Effect of Cumulative Wage Indexation

In this paper the implication of introducing an automatic wage indexation is analyzed. The inflationary pressure is assumed to come from two sources in the model: (1) a wage-price spiral through cumulative wage indexation and (2) price-price propagation through interindustry purchases. First, the stability of the inflation path is found to depend on the forward linkage effect of prices, contrary to the conventional wisdom. Secondly, the critical rate of wage indexation below which the inflation path stabilizes is determined in Australian context. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 138–48. University of Melbourne, Parkville, and Korea International Economic Institute, Seoul.

Sheifer, V. J.—Cost-of-Living Adjustment: Keeping up with Inflation?

Escalator clauses have received much attention as a way to offset erosion of wage increases through inflation. Cost-of-living adjustment (COLA) clauses, which cover roughly 10 percent of nonagricultural civilian employment, are concentrated in large union bargaining units. About 60 percent of the 9.6 million workers under private nonfarm labor agreements for 1,000 workers or more are covered. Over the 10-year period 1968–77, annual increases under COLA clauses in major bargaining units were only 57 percent of annual CPI increases. Reasons for this are explored, as are comparative wage movements in COLA and non-COLA bargaining units. *Mon. Lab. Rev.*, June 1979, *102*(6), pp. 14–17. Bureau of Labor Statistics, Washington, D.C.

200 Quantitative Economic Methods and Data

210 Econometric, Statistical, and Mathematical Methods and Models

211 Econometric and Statistical Methods and Models

Belsley, D. A.—On the Computational Competitiveness of Full-Information Maximum-Likelihood and Three-Stage Least-Squares in the Estimation of Nonlinear, Simultaneous-Equations Models

While full-information maximum-likelihood (FIML) estimation has long been considered an important theoretical econometric estimation technique, computational considerations have greatly restricted its use in practice. Recent advances in numerical analysis and in computational software, however, have com-

bined to provide algorithms capable of carrying out the FIML calculations quite efficiently relative to past standards. This paper compares the computational competitiveness of FIML with its most popular competitor, three-stage least-squares (3SLS), in the estimation of a variety of linear and nonlinear (in parameters and variables) models. The nonlinear full-information maximum-likelihood (NLFIML) estimator is described and a computationally efficient approximation, TRUNFIML, is defined. Nonlinear three-stage least-squares (NL3SLS) is accomplished by the method of Dale Jorgenson and Jean-Jacques Laffont. Comparisons are made on the basis of numbers of iterations to convergence, number of function evaluations, and total computer CPU time required, this latter figure being most relevant to a comparison of computational effort and cost. *J. Econometrics*, Feb. 1979, *9*(3), pp. 315–42. Boston College and Massachusetts Institute of Technology.

Berzeg, K.—The Error Components Model: Conditions for the Existence of the Maximum Likelihood Estimates

The paper provides a stochastic specification of the error components model that ensures a positive maximum likelihood estimate of the error component variance. Also, it is shown that all of the stochastic parameters of the error components are identifiable albeit with certain qualifications. The model analyzed is the simple, two-component model, in which the stochastic variable is decomposed into a random individual effect and an overall error term. However, the results can be easily generalized to include an additional random time-effect variable. *J. Econometrics*, April 1979, *10*(1), pp. 99–102. Division of Research, State of Maryland, Annapolis.

Buse, A.—Goodness-of-Fit in the Seemingly Unrelated Regression Model: A Generalization

This note generalizes M. B. McElroy's (1977) goodness-of-fit measure for the seemingly unrelated regression model when the disturbances are autocorrelated or heteroskedastic. The generalized R^2 has all the usual desirable properties and is shown to include the McElroy measure and the Buse (1973) single-equation measure as special cases. *J. Econometrics*, April 1979, *10*(1), pp. 109–13. University of Alberta, Edmonton.

Farebrother, R. W.—Estimation with Aggregated Data

This paper is concerned with the problem of estimating the parameters of the standard linear model from grouped data, or more generally from aggregated data. A number of alternative solutions are suggested and compared. *J. Econometrics*, April 1979, *10*(1), pp. 43–55. University of Manchester, United Kingdom.

Fisher, W. D.—A Note on Aggregation and Disaggregation

The relationship between the concepts of simplification, aggregation, and disaggregation that appear in recent writings of Chipman, Fisher, and Tintner and Sondermann are discussed. The context is the multivariate regression model, which is assumed to be used by an investigator to make predictions of a set of endogenous variables with small quadratic loss. A theorem is derived that states a correspondence between the use of a prescribed aggregation matrix and the use of a prescribed disaggregation matrix. *Econometrica*, May 1979, *47*(3), pp. 739–46. Northwestern University.

Gourieroux, C. and Monfort, A.—On the Characterization of a Joint Probability Distribution by Conditional Disturbances

In several fields of statistics and econometrics the problem of characterizing a joint probability distribution by conditional distributions occurs. In his article on qualitative response models, T. Amemiya (1975) proposed a proof for the discrete case which has been completed by M. Nerlove and S. J. Press (1976). In the latter article, as well as in a paper by R. E. Quandt (1976) on disequilibrium models, it was conjectured that the result was not applicable in the continuous case. In this note we give a general theorem for this problem. *J. Econometrics*, April 1979, *10*(1), pp. 115–18. *Ecole Nationale de la Statisque et de l'Administration Economique*, Malakoff, France.

Guilkey, D. K. and Schmidt, P.—Some Small Sample Properties of Estimators and Test Statistics in the Multivariate Logit Model

In this paper we compare three estimators for the multivariate logit model: two asymptotically efficient methods and a consistent method. The most interesting result is that at sample size of more than one hundred, the simple consistent estimator performs almost as well as the asymptotically efficient estimators. *J. Econometrics*, April 1979, *10*(1), pp. 33–42. University of North Carolina, Chapel Hill; Michigan State University, East Lansing.

Gupta, Y. P. and Maasoumi, E.—Omitted Variables, Variability of Estimated Parameters and the Appearance of Autocorrelated Disturbances

This paper shows that in a standard regression model with omitted variables, the ordinary least squares formula for the estimated variance matrix of the regression coefficients is more likely to underestimate the appropriate criterion of estimator reliability which is the Mean Square Errors matrix. Using examples of two and three regressor models, we show that overestimation, though possible, occurs in rather special cases. Throughout, our analysis is contrasted with that of M. Chaudhuri (1977) and clarifies some ambiguities of that paper. Finally, we disagree with Chaudhuri who distinguishes between the corresponding coefficients in the correct and the misspecified models. This distinction is inappropriate and leads to a misplaced criticism of some generalized least squares variants when errors are serially correlated. A first-order Markov process is an inexact representation of serial correlation, which is due to omitted regressors. *J. Econometrics*, Feb. 1979, *9*(3), pp. 379–85. University of Copenhagen; University of Southern California, Los Angeles.

Guth, H.; Kugler, P. and Zehnder, R.—Zu einigen neuen Entwicklungen in der Schätzung von Time-Lag-Strukturen (On Some New Developments in the Calculation of Time-Lag Structures)

This paper considers the problem of the specification of dynamic econometric relations. For practical purposes, this problem is often solved by relatively restrictive ad hoc specifications. Recently, a certain tendency to use only weak *a priori* restrictions can be observed. We think that these approaches represent an advance on the pure ad hoc specification because the range of arbitrary decisions is limited. The methods considered here are classified into "classical econometric" and time-series methods. The application of these different methods on an empirical example gives rise to the hope that comparable results are received, in spite of the different assumptions concerning the autocorrelation structure of the disturbance term. *Kyklos*, 1979, *32*(1/2), pp. 365–79 (German). University of Basle, Switzerland.

Hendry, D. F.—The Behaviour of Inconsistent Instrumental Variables Estimators in Dynamic Systems with Autocorrelated Errors

To appropriately interpret time-series evidence when empirical relationships are incorrectly formulated, a general misspecification framework is required. A linear, stationary, dynamic, simultaneous system with autoregressive errors is postulated to investigate instrumental variables estimators when the instruments are unknowingly correlated with the equation errors. The approach uses control variants (David F. Hendry and Robin W. Harrison, *Journal of Econometrics*, July 1974) to develop asymptotic distributions and exact moments for approximations to the econometric estimators. The accuracy of the asymptotic results for finite sample moments is corroborated by simulation. The analysis highlights the need for care in interpreting estimated equations and tests for predictive failure. *J. Econometrics*, Feb. 1979, *9*(3), pp. 295–314. London School of Economics.

Klein, R. W.—Optimal Instruments when the Disturbances Are Small

Single-equation instrumental variable estimators (*e.g.*, the *k*-class) are frequently employed to estimate econometric equations. This paper employs Jay Kadane's (1971) small-σ method and a squared-error matrix loss function to characterize a single-equation class of optimal instruments, $\mathscr{A}$. $\mathscr{A}$ is optimal (asymptotically for a small scalar multiple, σ, of the mod-

el's disturbance) in that all of its members are preferred to all non-members. From this characterization it is shown all k-class estimators and certain iterative estimators belong to $\mathscr{A}$. However, non-iterative principle component estimators (*e.g.*, T. Kloek and L. B. M. Mennes [1960]) are unlikely to belong to $\mathscr{A}$. These latter instrumental variable estimators have been advocated (see Takeshi Amemiya [1966] and Kloek and Mennes [1960]) for estimating "large" econometric models. *J. Econometrics*, Feb. 1979, *9*(3), pp. 367–77. Bell Laboratories, Holmdel, New Jersey.

Nelson, H. L., Jr. and Granger, C. W. J.—Experience with Using the Box-Cox Transformation when Forecasting Economic Time Series

Experience using 21 actual economic series suggests that using the Box-Cox transform does not consistently produce superior forecasts. The procedure used was to consider transformations $x^{\lambda} = (x^{\lambda} - 1)/\lambda$, where λ is chosen by maximum likelihood, a linear ARIMA autoregressive integrated moving average model fitted to x^{λ} and forecasts produced, and finally forecasts constructed for the original series. A main problem found was that no value of λ appeared to produce normally distributed data, and so the maximum likelihood procedure was inappropriate. *J. Econometrics*, April 1979, *10*(1), pp. 57–69. University of California at San Diego, La Jolla.

Phillips, P. C. B.—The Sampling Distribution of Forecasts from A First-Order Autoregression

Previous work on characterizing the distribution of forecast errors in time-series models by statistics such as the asymptotic mean square error has assumed that observations used in estimating parameters are statistically independent of those used to construct the forecasts themselves. This assumption is quite unrealistic in practical situations, and the present paper is intended to tackle the question of how the statistical dependence between the parameter estimates and the final period observations used to generate forecasts affects the sampling distribution of the forecast errors. We concentrate on the first-order autoregression and, for this model, show that the conditional distribution of forecast errors given the final period observation, is skewed towards the origin and that this skewness is accentuated in the majority of cases by the statistical dependence between the parameter estimates and the final period observation. *J. Econometrics*, Feb. 1979, *9*(3), pp. 241–61. Yale University and University of Birmingham, England.

Reinsel, G.—FIML Estimation of the Dynamic Simultaneous Equations Model with ARMA Disturbances

A method is presented for the estimation of the parameters in the dynamic simultaneous equations model with vector autoregressive moving average disturbances. The estimation procedure is derived from the full information maximum likelihood approach and is based on Newton-Raphson techniques applied to the likelihood equations. The resulting two-step Newton-Raphson procedure involves only generalized instrumental variables estimation in the second step. This procedure also serves as the basis for an iterative scheme to solve the normal equations and obtain the maximum likelihood estimates of the conditional likelihood function. A nine-equation variant of the quarterly forecasting model of the U.S. economy developed by Ray C. Fair is then used as a realistic example to illustrate the estimation procedure described in the paper. *J. Econometrics*, Feb. 1979, *9*(3), pp. 263–81. University of Wisconsin, Madison.

Srivastava, V. K. and Dwivedi, T. D.—Estimation of Seemingly Unrelated Regression Equations: A Brief Survey

This paper presents a brief survey of the developments in the estimation of seemingly unrelated regression equation models covering a period of one and a half decades, including some of the recent results by the authors. *J. Econometrics*, April 1979, *10*(1), pp. 15–32. Concordia University, Montreal.

Swamy, P. A. V. B. and Mehta, J. S.—Estimation of Common Coefficients in Two Regression Equations

In this paper we consider a problem of estimating K common coefficients in two regres-

sion models. Assuming that the disturbances of the two equations have different variances, it is shown that, under some general conditions, it is possible to combine information on both the equations to obtain estimators that are more efficient than the one based on just one of the two equations. *J. Econometrics,* April 1979, *10*(1), pp. 1–14. Federal Reserve System, Washington, D.C.; Temple University, Philadelphia.

Taub, A. J.—Prediction in the Context of the Variance-Components Model

This paper considers the question of a proper forecast in the context of the variance-components model. It is shown how residuals from the estimated equation should be included in the forecast. *J. Econometrics,* April 1979, *10*(1), pp. 103–07. Cleveland State University.

Toyoda, T. and Wallace, T. D.—Pre-Testing on Part of the Data

Reserving part of a data set for final estimation, using the other part for pretesting in a regression model is not good practice from a risk function point of view, even though such a procedure has been advocated and practiced by some econometricians and statisticians. Comparing quadratic risk functions for estimators based on pre-tests on part of the data with estimators based on pre-tests on all the data shows that neither dominate. However, the part sample estimator is decidedly inferior in average relative risk. *J. Econometrics,* April 1979, *10*(1), pp. 119–23. Kobe University, Kobe, Japan; Duke University.

213 Mathematical Methods and Models

Benveniste, L. M. and Scheinkman, J. A.—On the Differentiability of the Value Function in Dynamic Models of Economics

In economic decisions that require planning over a time horizon (possibly infinite) feasible plans for development are restricted by initial holdings (of capital, resources, *etc.*) and technological constraints. If a well-defined "numeraire" value can be assigned to paths with the size reflecting the tastes of the decision-maker, the objective can be described as: given the initial state, locate the feasible path from that state that yields the highest volume. One could then assign a "reduced form" value function on initial states by defining the volume of the point to be the value of the best path originating at that point. In this paper we give conditions for the model that guarantee that the value function is differentiable. *Econometrica,* May 1979, *47*(3), pp. 727–32. University of Rochester; University of Chicago.

Hurwicz, L. and Richter, M. K.—Ville Axioms and Consumer Theory

We show that a "no-cycle" condition, of a continuous type introduced by Ville, is equivalent to the Antonelli (or Slutsky) symmetry conditions, which together with other axioms is known to be a basis for constructing a utility function from expenditure data. The "no-cycle" condition is attractive because—unlike the symmetry condition—it has an evident behavioral interpretation, through which we relate it to the strong axiom of revealed preference. We show, nevertheless, that the "no-cycle" condition does not imply even the weak axiom of revealed preference. *Econometrica,* May 1979, *47*(3), pp. 603–19. University of Minnesota, Minneapolis.

Paris, Q.—Revenue and Cost Uncertainty, Generalized Mean-Variance, and the Linear Complementarity Problem

Symmetric quadratic programming and the linear complementarity problem are presented in the context of a novel interpretation of risk programming. The novelty admits stochastic supplies of limiting inputs, and yet it preserves the linearity of the structural constraints. This formulation is, therefore, a generalization of the traditional mean-variance approach originated with Markowitz's portfolio analysis and extended by R. J. Freund to farm planning under uncertain revenues. The specification admits also non-zero covariances between revenues and costs of limiting inputs and allows the computation of risk coefficients associated with a companion chance-constrained problem. *Amer. J. Agr. Econ.,* *61*(2), May 1979, pp. 268–75. University of California, Davis.

220 ECONOMIC AND SOCIAL STATISTICAL DATA AND ANALYSIS

Timmermann, M.—Zur Integration sozio-ökonomischer Gesamtrechnungen (On the Integration of Socio-Economic National Accounting Systems)

Starting with a characterization of the function of economic description, this article points out the shortcomings of the customary static reporting and outlines the concepts of economic and social history and statistics, the social accounting system, and reporting approaches to their structural disaggregation. The emphasis lies on a critical discussion of the different elements of the national accounting system and their potentialities. To determine the conditions of the economic process, the concepts of a demographic accounting, a balance of natural resources and an ecological bookkeeping are described. The strategy of research regards to an integration of income accounts and the other special accounts. *Kyklos*, 1979, *32*(1/2), pp. 430–48 (German). University of Konstanz, West Germany.

221 National Income Accounting

Erdös, P. and Molnár, F.—A Method for Estimating the Income, Consumption and Savings of Social Groups (Based on USA Statistics)

The study of the political economy of capitalism has to rely on actual figures released by statistics. The usage of such data involves a twofold problem: the categories of capitalist statistics do not fit Marxist categories, and many items rely on estimates drawn from assumed relationships. Using the official publications of the Department of Commerce of the U.S., the authors developed their model on the basis of a macroeconomic balance sheet of Michał Kalecki. The Kaleckian balance sheet was filled with data covering the period 1968–76, thus providing a basis for the analysis of business fluctuations now under preparation. *Acta. Oecon.*, 1977, *19*(3–4), pp. 277–97. Institute of Economics, Hungarian Academy of Sciences, Budapest.

Flakierski, H.—Economic Reform and Income Distribution in Hungary

The author tries to test the relationship between the economic reform in Hungary and changes in income inequality, to see whether the increased role of the market mechanism has affected the pattern of distribution. Using various standard statistical tools, he finds that it has. Although there is no automatic correlation between economic reforms and wider income disparities, the market forces unleashed by economic reforms in Hungary, together with deliberate state policy, brought an increase in relative dispersion of wages and salaries in the period 1966–74. At the same time the state, after implementing the reform, was able to maintain the *status quo* in relative dispersion of per capita household income, which is very low by the standards of the capitalist countries. The author also states that there are serious socio-political constraints and difficulties in a socialist economy in stimulating productivity by material incentives only, and in stimulating production via increases in wage differentials. Non-egalitarian policies involve political obstacles, which the state must reckon with. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 15–32. York University, Toronto.

van Ginneken, W.—Socio-Economic Groups and Income Distribution in Mexico

Mexico's rapid economic growth between 1950 and 1975 was accompanied by growing income inequality. With the help of a linear programming model, the author examines the probable effects of three alternative policies covering the period 1977–82 and aiming respectively at the maximization of economic growth, employment, and production under various assumptions concerning the degree of labor utilisation, the existence of investment rigidities, and the introduction of land reforms. The model shows that, in the absence of corrective measures, larger and medium-sized employers, salaried employees, and regular wage earners are likely to make disproportionately larger gains than small employers and day-laborers. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 331–42. International Labour Office, Geneva.

Maddison, A.—Per Capita Output in the Long Run

Present estimates of real output per head at 1970 prices for 16 countries for period 1870–1978, with estimates back to 1700 for some of them. Implications of the new estimates for analysis of economic growth and relation to earlier writings of W. W. Rostow and Simon Kuznets. *Kyklos*, 1979, *32*(1/2), pp. 412–29. University of Groningen, The Netherlands.

Yeats, A. J.—On the Accuracy of Partner Country Trade Statistics

Employing matched U.S. and partner country trade data, this study decomposes f.o.b.–c.i.f. ("free-on-board" to buyer–cost, insurance, and freight charged to buyer) export-import statistics into a transportation cost component and residual factor. The objectives of this exercise are twofold: to assess the quality of the official statistics, and to estimate the *ad valorem* incidence of shipping costs. With regard to the former, the results are not comforting. After removal of the freight component, large discrepancies are found between partner country trade data both in cross-section and time-series analysis. Tests indicate that valuation, transit shipments, diversion en route and classification problems are among the sources of error. The study also finds that normal c.i.f.–f.o.b. ratios do not approximate transport costs in spite of the assumption often made in gravity flow and related trade models. *Oxford Bull. Econ. Statist.*, Nov. 1978, *40*(4), pp. 341–61. Institute for International Economic Studies, Stockholm.

222 Input-Output

Johansen, L.—On the Theory of Dynamic Input-Output Models with Different Time Profiles of Capital Construction and Finite Life-Time of Capital Equipment

The paper extends the traditional dynamic input-output model by introducing time profiles for capital construction and finite life-time of capital equipment. It is shown that the growth rate under steady growth can be determined by a characteristic equation, which is similar to the equation for the standard case, but with the elements of the matrix replaced by functions of the growth rate. The price equations of the system are established on the basis of investment profitability calculations. It is shown how the prices thus established indicate the effects on the growth rate of changes in the coefficients and can be used to evaluate alternative techniques. In a final section final consumption demand is allowed for, and the role of the savings rate is clarified. In this case a dynamic non-substitution theorem is given. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 513–33. University of Oslo.

Krengel, R.—Die Anfänge der Input-Output-Rechnung des DIW für die Bundesrepublik Deutschland (The Beginnings of the Input-Output Calculation of the German Institute for Economic Research for the Federal Republic of Germany)

Systematic work on the task of establishing an input-output calculation for the German Federal Republic started 1 April 1962 and has been carried on uninterruptedly since then. This paper gives an account of the early efforts of German Institute for Economic Research (DIW) staff members to set up some input-output tables under very difficult circumstances. The first attempts in 1953 were only partly successful, since many Federal Republic statistics were still not available for that period. Not until after publication in 1958 of the results of the Industrial Census of 1954 was it possible to compile an initial input-output table for that year. These first projects were not supported financially by the federal economic administration, but by a large enterprise. *Kyklos*, 1979, *32*(1/2), pp. 392–99 (German). German Institute of Economic Research, Berlin.

225 Social Indicators and Social Accounts

De Rooy, J.—Are There Decreasing Returns to Income in the United States?

Some social scientists and politicians have suggested that we use sets of socioeconomic indicators to measure differences in well-being among regions or over time because conventional income accounts exclude disamenities (for example, pollution, congestion). This article provides statistical evidence that differences in income among regions overestimate differences in welfare. Three composite social indicators are discussed and evaluated. These

indicators are regressed on per capita personal income using three models. For two of the three indicators increments in well-being decrease relative to increments in income. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 91–107. Pennsylvania State University, Capital Campus.

226 Productivity and Growth: Theory and Data

Thirlwall, A. P.—The Balance of Payments Constraint as an Explanation of International Growth Rate Differences

The paper argues that the major constraint on the long-run rate of growth of output in an open economy must be the balance of payments. The balance-of-payments equilibrium growth rate is modelled, and it is shown how closely the growth rate of several countries since 1951 approximates to the countries' rate of growth of exports divided by their income elasticity of demand for imports. *Banca Naz. Lavoro Quart. Rev.*, March 1979, *31*(128), pp. 45–53. University of Kent at Canterbury.

227 Prices

König, H.—Zur Bildung von Preiserwartungen: Ein multi-variates log-lineares Wahrscheinlichkeitsmodell (The Formation of Price Expectations: A Multivariate Log-Linear Probability Model)

In this article the theoretical properties and the empirical relevance of a log-linear probability model for the analysis of relationships between price expectations and realizations are discussed and demonstrated for data of German textile firms sampled by the Ifo-Institut as trichotomous categorical variable in the business test. Different models for relationships between expectations and realizations for month t and $t-3$ during 1975 and 1976 are studied by parametrization of a $3 \times 3 \times 3 \times 3$ contingency table—allowing for bi- and trivariate interaction effects. Parameter estimates and goodness-of-fit criteria indicate that an adaptive expectation type model explains the joint probability distribution rather well, but that interactions with variables like backlog of orders and appraisals of orders also result in meaningful and significant estimates. *Kyklos*, 1979, *32*(1/2), pp. 380–91 (German). University of Mannheim, West Germany.

228 Regional Statistics

Weber, R. E.—A Synthesis of Methods Proposed for Estimating Gross State Product

The various methods that have been used for estimating Gross State Product are surveyed and analyzed. A synthesis of these is presented along with exact references for obtaining the necessary data. A method for deflating the current dollar estimates is given. The potential accuracy of such estimates is discussed, and suggestions are made for determining the probable level of inaccuracy to be expected for particular estimates. It is suggested that for most states or regions the Income Received Method yields quite adequate results, especially if combined with the productivity weighting system for manufacturing sectors described. *J. Reg. Sci.*, May 1979, *19*(2), pp. 217–30. Rutgers University, New Brunswick, New Jersey.

300 Domestic Monetary and Fiscal Theory and Institutions

310 Domestic Monetary and Financial Theory and Institutions

311 Domestic Monetary and Financial Theory and Policy

Aghevli, B. B. and Rodriguez, C. A.—Trade, Prices, and Output in Japan: A Simple Monetary Model

An econometric model is developed to assess the role of monetary factors in the adjustment of prices, output, and the trade balance. The adjustment process depends on the excess supply of money, the degree of openness, and the level of excess capacity in the economy. The model is estimated (1965–76) and simulated (1977–82) for Japan for various rates of monetary expansion. Results indicate that any excess supply of money is dissipated through higher prices, higher output, and trade deficits. In addition, higher excess capacity in the economy reduces inflation and stimulates output growth. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 38–54 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.; Columbia University.

Bhattacharya, S.—Welfare and Savings Effects of Indexation

This paper establishes that indexation of debt contracts cannot decrease welfare when we consider the transition between equilibria, and indeed strictly improves welfare for all investors who held assets other than the market in the nonindexed equilibrium. The Pareto optimality with respect to investment of the indexed equilibrium is then used to examine the general-equilibrium effects of indexation on aggregate savings, without making arbitrary assumptions about prices across equilibria of different "asset economies." *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 192–201. University of Chicago.

Bryant, J. and Wallace, N.—The Inefficiency of Interest-bearing National Debt

The coexistence of money and default-free interest-bearing government bonds is explained by transaction costs; the private sector absorbs money with less real difficulty than it absorbs bonds. Under the assumption that the costs of issuing money and issuing bonds are identical, it follows that the presence of government bonds is inefficient. Further, the steady-state inflation rate is higher with bond financing of a given real deficit because there is less net output, less real saving, and hence the need for the government to inflate faster. This is demonstrated in a version of Paul A. Samuelson's pure consumption loans model. *J. Polit. Econ.*, April 1979, *87*(2), pp. 365–81. Federal Reserve Bank of Minneapolis.

Cameron, N.—The Stability of Canadian Demand for Money Functions, 1954–1975

Stability tests are conducted on Canadian quarterly data for the period 1954–75 for 12 different specifications of fairly traditional demand for money functions. The tests are all based on series of recursive one-period prediction residuals; they test for the presence of serial correlation, heteroskedasticity, misspecification of form, and structural change—either gradual or abrupt. Some problems are encountered in dealing with several types of instability at once. The test results suggest mild heteroskedasticity, strong serial correlation in the untransformed equations, and structural change of some sort for both definitions of money. The 1967 Bank Act Revision does not seem to have caused an abrupt shift of demand for either broad or narrow money. *Can. J. Econ.*, May 1979, *12*(2) pp. 258–81. University of Manitoba, Winnipeg.

Davidson, P.—Is Monetary Collapse in the Eighties in the Cards?

Is monetary collapse in the 1980's in the cards? At the risk of overgeneralization, the simple answer to this query is demonstrated in this paper to be yes—unless economists can provide a monetary theory to guide practical businessmen with their policy decisions. We will get our policies right only when we get our theory right. To get a correct theory, we must use the tool of an unambiguous set of definitions, for often disagreements of views involve semantic confusions. Fruitful policy decisions require precision of language, so both the problem and its resolution can be well defined. In this paper, concepts of money and liquidity are first defined and then developed in terms of the essential properties of such concepts. It is demonstrated that money as unambiguously defined in this paper plays an essential and peculiar role only when we have a production economy that is organized on a monetary contract basis where the contractual obligations span significant lengths of calendar time. However, it is also argued that the organization of production requires such forward monetary contracting if the production process is to be efficiently planned. In such a world money matters, and money contracting matters, and the most ubiquitous of all forward contracts, the money wage, becomes the linch pin for the supply price of reproducible goods. *Neb. J. Econ. Bus.*, Spring, 1979, *18*(2), pp. 15–24. Rutgers University, New Brunswick, New Jersey.

den Dunnen, E.—Postwar Monetary Policy

Monetary policy has played an active role in Dutch postwar economic policy. Essentially, it has sought to contribute to balanced economic growth by controlling the money supply M_2 in relation to national income. Policy measures extend to all sources of money creation—*viz.*, bank credit, public sector finance, and the

balance of payments—and are predominantly of the quantitative type. This is reflected, among other things, in medium-term targets for the structure and outcome of the balance of payments and the size and coverage of the public sector's borrowing requirement. Internationally, the Netherlands favor and participate in stable exchange rate systems. This has not led to serious conflicts with domestic monetary objectives until the seventies, when excessive easing of monetary conditions had to be accepted temporarily. *De Economist*, 1979, *127*(1), pp. 21–57. De Nederlandsche Bank.

Fischer, S.—Anticipations and the Nonneutrality of Money

This paper examines the responses of the capital stock, output, and the price level, to changes in the money stock in a neoclassical growth model in which money may not be neutral. The nonneutrality of money stems from the Tobin effect—the effect of anticipated inflation on capital accumulation. The adjustment of prices and output to monetary changes are shown to depend on whether the change is anticipated or not, and also to depend on the date at which the change first became anticipated. Adjustment patterns to anticipated changes show first Koyck leads and then Koyck lags. The model is extended to include labor supply effects of unanticipated inflation. The paper concludes with discussions of the nature of the rational expectations solution chosen and of the mechanism producing the non-neutrality of money. *J. Polit. Econ.*, April 1979, *87*(2), pp. 225–42. Massachusetts Institute of Technology.

Friedman, B. M.—Substitution and Expectation Effects on Long-Term Borrowing Behavior and Long-Term Interest Rates

This paper develops and estimates a model of corporate borrowers' supply of long-term bonds that combines complementary but distinct roles for portfolio substitution effects based on both current and expected future yields. It also examines the implications of the resulting bond supply relationships for a structural model of the determination of long-term interest rates. Estimation results for U.S. data provide support for the model of long-term borrowing behavior, including the yield-related substitution and expectation effects as well as risk-related elements depending on fixed asset holdings and retained earnings. Including this representation of bond supply in a structural model of the bond market improves the model's empirical performance in determining the long-term bond yield. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 131–50. Harvard University.

Galbis, V.—Inflation and Interest Rate Policies in Latin America, 1967–76

This paper analyzes interest rate policies in 19 Latin American countries during 1967–76. A number of countries moved from the traditional interest rate ceilings to floors, various forms of indexation, and liberalization. New policies did not always reflect greater enlightenment, but constituted a belated response to the rising tide of inflation. While in 1967 financial repression (negative real interest rates) was limited to a minority of inflationary countries, it spread to the entire region throughout the inflationary period 1973–76. Furthermore, the structure of domestic interest rates tended to diverge, and domestic rates adjusted for depreciation fell below international rates. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 334–66 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

Garcia, G. and Pak, S.—The Ratio of Currency to Demand Deposits in the United States

The paper attributes the currency ratio's recent rise to a fall in deposit demand rather than to any unexpected increase in currency use. The currency equation has continued to forecast accurately, while deposit and ratio forecasts have become increasingly biased. The paper identifies the rapid increase during the past ten years in secured (repurchase agreement) and unsecured transactions in immediately available funds (IAF's) between commercial banks and their nonbank customers as a factor important to the forecast problems. Utilizing estimates of IAF activity is shown to substantially improve forecasts of both demand deposits and the currency ratio. *J. Finance*, June 1979, *34*(3), pp. 703–15. University of California, Berkeley.

Giddy, I. H.; Dufey, G. and Min, S.—Interest Rates in the U.S. and Eurodollar Markets

This paper provides a theory of the equilibrium differential between domestic and offshore (Euro) interest rates on the basis of the additional perceived riskiness of offshore deposits and loans, and the higher costs of regulation associated with offering deposits and loans domestically. Short-run changes in the interest rate differentials between the offshore and domestic markets, the authors argue, result from domestic market imperfections such as regulatory restraints and oligopolistic market conditions. Empirical tests on U.S. and Eurodollar interest rates for 1974 to 1978 support the hypothesis that Eurodollar rates respond more rapidly to changes in credit conditions than do U.S. bank rates. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 51–67. Columbia University; University of Michigan; Seoul National University.

Jonung, L.—Knut Wicksell and Gustav Cassel on Secular Movements in Prices

Theories of secular fluctuations in prices put forth by Knut Wicksell and Gustav Cassel are examined. Presented at the turn of the century, both theories account for the long-run movements in prices in the nineteenth century and explain roughly the same set of data. Wicksell related secular swings in the price level to movements in the natural rate of interest. Cassel associated long-run fluctuations in the world price level to differences in the growth rates of the world demand for, and world supply of, gold. The implications of the two hypotheses for the money supply process are compared using recently compiled data on Swedish monetary developments. Cassel's interpretation is confirmed and the Wicksellian explanation is questioned. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 165–81. University of Lund, Sweden.

Khatkhate, D. R. and **Villanueva, D. P.**—Deposit Substitutes and Their Monetary Policy Significance in Developing Countries

This paper deals with the nature and dimensions of deposit substitutes that have emerged lately in several developing countries as a source of funds to financial institutions. Deposit substitutes are a kind of liability issued by financial institutions, which are almost synonymous with bank deposits. However, practices vary from country to country and are generally devoid of economic rationale. The monetary policy significance of deposit substitutes is investigated through a case study of the Philippines, with the conclusion that the presence of deposit substitutes has not made any material difference to the impact of monetary policy on the real variables. *Oxford Bull. Econ. Statist.*, Feb. 1979, *41*(1), pp. 37–50. International Monetary Fund, Washington, D.C.

Koskela, E.—On Disequilibrium Effects of Interest Rate Controls in a Monopolistic Banking System

In the partial equilibrium framework of a monopolistic banking system, this paper seeks to analyze the disequilibrium and welfare effects of certain interest rate controls. The outcomes of two policies are examined, *i.e.*, that of raising the loan and discount rates, along with the institutional practice of tying the deposit rate positively to the policy mix and that of changing central bank borrowing terms. *Scand. J. Econ.*, 1979, *81*(1), pp. 1–17. University of Helsinki.

Moosa, S. A.—Why Stocks Have not been a Hedge against Inflation

The paper provides an (economic) explanation of the commonly found negative empirical relation between stock returns and inflation. Variables that determine stock prices can be expected to affect and in turn be affected by other structural equations of macroeconomic models. Hypotheses concerning the existence of an anti-inflationary policy reaction function are stated and their expected effects on selected monetary and real equations spelled out. Reduced-form estimates are then presented to show that an anti-inflationary monetary policy reaction function produced a decline in corporate per share earnings growth and an increase in risk premia, thus explaining the common (statistical) finding of recent studies. *Neb. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 45–61. University of Illinois, Chicago Circle.

Müller, H. and **Schweizer, U.**—Temporary Equilibrium in a Money Economy

Clower's concept of a non-pure money economy is worked out in detail. We use a model including transaction costs, several media of exchange, and a system of markets. We emphasize the role of money as a medium of exchange. As a consequence, consumers have to face a set of monetary constraints which, typically, cannot be replaced by an overall budget equation thus contrasting sharply with an Arrow–Debreu world. Finally, a proof of existence of temporary equilibrium in a money economy is given in an appendix. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 267–86. University of Cambridge; University of Bonn.

Phillips, L. and Pippenger, J.—The Term Structure of Interest Rates in the MIT-PENN-SSRC Model: Reality or Illusion?

Using corporate and treasury yields, the Modigliani–Schiller model of the term structure is compared with a simple efficient market model. In the corporate market, a distributed lag on short rates adds significantly to the explanation of long rates. In the treasury market, it does not. The structure discovered in corporate yields does not persist across markets and time. The evidence therefore does not support the Modigliani–Schiller interpretation of the term structure of interest rates. Finally, using simulation it is shown that their method of estimation is inappropriate and likely to emphasize spurious results. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 151–64. University of California, Santa Barbara.

Scarfe, B. L.—Optimal Monetary Policy with a Trade-Off Function

This paper uses the calculus of variations to examine optimal time paths for the growth rate of the nominal stock of money in a closed economy in which there exists a short-run (but not necessarily a long-run) trade-off relationship between inflation and the level of resource utilisation, but in which the overall rate of resource utilisation and the rate of inflation may be different from the corresponding target levels that policy-makers are trying to achieve. Conclusions with references to the "rules versus discretion" debate about monetary policy are drawn for an economy in transition between alternative steady-state inflation rates. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 20–35. University of Alberta, Edmonton.

Smith, P.—Keynes' Finance Motive: Some Empirical Evidence

Unlike the transactions, precautionary, and speculative motives for demanding money, Keynes's finance motive has hardly been tested empirically at all. This paper outlines the problems involved in such testing and proposes a model of the demand function for money, which includes finance demand as an argument. This model is tested using Australian data. The results of the tests indicate that finance demand is an additional and significant component of the demand for money. *J. Post Keynesian Econ.*, Spring 1979, *1*(3), pp. 55–68. University of Adelaide, Australia.

Tanzi, V.—Income Taxes and the Demand for Money: A Quantitative Analysis

Traditionally demand-for-money equations have been estimated assuming that the market interest rates measure the opportunity cost of holding money. However, the yield actually relevant to individuals is the one net of income taxes. Income taxes reduce the opportunity cost of holding money. There is thus an obvious need to correct the yields used in demand-for-money equations. A time series of the weighted average tax rate on interest income (for the post-1913 period) is calculated and used to derive net-of-taxes market rates of interest. These new rates are then used in traditional demand-for-money equations. The new rates are shown to bring about improvements in the statistical fit. *Banca Naz. Lavoro Quart. Rev.*, March 1979, *31*(128), pp. 55–72. International Monetary Fund, Washington, D.C.

Van Order, R.—On the Monetarist Money Income Model

This paper is a critique of Milton Friedman's "Monetary Theory of Nominal Income" (*Journal of Political Economy*, 1971) on the grounds that his "preferred" procedure, holding interest rates constant and solving for income and prices, is inconsistent with the behavior of the actors in the model. In particular,

it is difficult to make the procedure consistent with individuals obeying their budget constraints. Implications of making it consistent are then discussed. *J. Post Keynesian Econ.*, Summer 1979, *1*(4), pp. 131–35. Department of Housing and Urban Development, Washington, D.C.

Zijlstra, J.—Monetary Theory and Monetary Policy: A Central Banker's View

In this article attention is paid to monetary theory, the relationship between the instruments of monetary policy and other important macroeconomic policy instruments, and finally to the real possibilities of pursuing an effective monetary policy. The conclusion from the theoretical analysis is that the total money supply must be considered one of the most important macroeconomic policy instruments. An excessive supply of money will sooner or later lead to inflation, to the debasement of money. Therefore the volume of money should be controlled. The use and effectiveness of monetary policy should always be seen in the context of other policy instruments, especially fiscal policy and, under certain circumstances, wage and price policy. The possibilities to pursue an effective monetary policy are not unlimited. The effectiveness of such a policy can, *e.g.*, be hampered by external factors. It is vital for a central bank to have the widest possible range of instruments at its disposal. *De Economist*, 1979, *127*(1), pp. 3–20. De Nederlandsche Bank and Bank for International Settlements, Basel, Switzerland.

312 Commercial Banking

Mitchell, D. W.—Explicit and Implicit Demand Deposit Interest: Substitutes or Complements from the Bank's Point of View?

The hypothesis that a binding interest rate ceiling on checking accounts induces banks to offer customers implicit interest in the form of services rendered and priced below cost is examined. It is shown theoretically that a rise in the explicit rate ceiling may in fact cause either a rise, a less-than-point-for-point fall, or a more-than-point-for-point fall in the implicit interest rate. The source of the ambiguity is that banks and their customers value the implicit interest payments differently. *J. Money, Credit, Banking*, May 1979, *11*(2), pp. 182–91. Temple University, Philadelphia.

313 Financial Markets

Friesen, P. H.—The Arrow–Debreu Model Extended to Financial Markets

The Arrow–Debreu model is extended to include a sequential market model with financial markets. This is done by dropping the contingent contracts from the Arrow–Debreu model, leaving only a sequence of spot markets for commodities. The resulting market structure is inefficient. Efficiency is restored with a sequence of stock markets and option markets. In addition, consumers are shown to be unanimous in wanting each firm to maximize the price of its common stock. *Econometrica*, May 1979, *47*(3), pp. 689–707. McGill University, Montreal.

Garbade, K. D, and Silber, W. L.—Structural Organization of Secondary Markets: Clearing Frequency, Dealer Activity and Liquidity Risk

This paper departs from the standard analysis of secondary markets by treating the structural organization of exchange endogenously. We hypothesize that, through competition between markets with different organizational characteristics, a surviving market will be organized to minimize trader exposure to liquidity risk. The optimal frequency of market clearing was shown to depend upon the volatility of securities prices and the number of market participants. Dealer participation in market trading reduces liquidity risk and increases the optimal frequency of clearing. Advances in communications and information technology have similar effects. The empirical relevance of these results was illustrated by a number of historical and contemporary examples of the structure of secondary markets. *J. Finance*, June 1979, *34*(3), pp. 577–93. New York University.

Goldman, M. B. and Sosin, H. B.—Information Dissemination, Market Efficiency and the Frequency of Transactions

Casual observers of the New York Stock Exchange (NYSE) are often dumbfounded by the frenetic behavior of its participants. If asked

how such chaos generates accurate prices, many academicians would reply that the ability to transact frequently is a virtue, since it promotes prompt information dissemination and therefore market efficiency. However, in contrast to the NYSE where, during trading hours, trades may be consumated almost continuously, the Paris Stock Exchange trades each security only a handful of times a day. This continental contrast in market structure led us to reexamine the role of speed in markets. We have discovered that if sufficient uncertainty surrounds the dissemination of information, frequent transacting may be deleterious to market efficiency. In fact, in our paradigm we are able to show that our measure of market efficiency may be maximized when there is a unique, non-zero time interval between consecutive trades. The measure of efficiency used throughout the paper is minus the mean squared error. This measure was chosen to focus upon the information content of prices at times when they are posted (*i.e.*, at times of tâtonnements). For this purpose we ignore costs of illiquidity and costs associated with obsolete information that would occur between tâtonnements. In this restricted sphere, maximization of our efficiency measure is consistent with maximizing social Pareto optimality. *J. Finan. Econ.*, March 1979, *7*(1), pp. 29–61. Bell Laboratories, Murray Hill, New Jersey.

Kaplan, R. S. and Urwitz, G.—Statistical Models of Bond Ratings: A Methodological Inquiry

Previously developed models for predicting bond ratings are summarized and criticized. A statistical procedure appropriate to the ordinal nature of a bond rating is applied to a recent sample of seasoned and newly issued bonds. A simple linear model using a subordination dummy variable, total assets, the long-term debt to total-assets ratio, and the common stock systematic risk measure can correctly classify two-thirds of a holdout sample of newly issued bonds. Further analysis reveals that the model may be predicting the actual risk of a bond better than the rating agency in about half of the "misclassifications." *J. Bus.*, April 1979, *52*(2), pp. 231–61. Carnegie-Mellon University; Skandinaviska Enskilda Banken, Stockholm.

Mayers, D. and Rice, E. M.—Measuring Portfolio Performance and the Empirical Content of Asset Pricing Models

Recent work by Richard Roll has challenged the worth of portfolio performance measures based on the capital asset pricing model. This paper demonstrates that Roll's conclusions are due to his focusing on a "truly" *ex ante* efficient index. Using a choice and information theoretic framework, we show that an appropriate index is efficient relative to the probabilities assessed by the "market." Residual analyses and portfolio performance tests, using such an index, yield meaningful results for a wide class of information structures. Roll's primary criticisms, however, relate to tests of the asset pricing model itself. We argue that these criticisms are vastly overstated. *J. Finan. Econ.*, March 1979, *7*(1), pp. 3–28. University of California, Los Angeles; University of Illinois, Urbana-Champaign.

Praetz, P. D.—Testing for a Flat Spectrum on Efficient Market Price Data

This paper tests whether estimated spectral ordinates have a flat spectrum. This is important as, in the theory of efficient markets applied to commodity and security prices, independence is often tested by estimating a spectrum and seeing if it departs from a population spectrum, which is a constant independent of frequency. This paper discusses several solutions to an extremely complex problem including a direct parametric and indirect nonparametric spectral test as well as others in the time and frequency domain and studies them on stock market data. *J. Finance,* June 1979, *34*(3), pp. 645–58. Monash University, Melbourne.

Scott, J. H. and Wolf, C. R.—The Efficient Diversification of Bids in Treasury Bill Auctions

In the weekly U.S. Treasury bill auctions, agents typically bid at more than one price. In this paper, the theoretical and empirical properties of multiple price bids are examined. It is first shown that such bids are superior to single price bids. It is next demonstrated that multiple price bids are equivalent to a portfolio of securities. From the forecasts of Government securities dealers, bids that were efficient

in a mean-variance sense were determined. These bids outperformed the dealers' actual bids on an *ex post* as well as *ex ante* basis. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 280–87. Columbia University.

314 Financial Intermediaries

Kalish, L. and McKenzie, J. A.—Portfolio Drag and Savings and Loan Lending Policy

This article examines the often stated view that the low yield on the inherited portfolio of a savings and loan association is associated with high rates on new mortgages. Such rate-setting behavior is inconsistent with profit maximization, but may occur if the association maximizes deposits. Cross-section regression results employing a sample of 171 associations provided no general support for this view. However, in a subsample of concentrated markets, a significant relationship was found. An implication is that the introduction of variable-rate mortgages should not be expected to lower mortgage rates generally through increasing the past portfolio yield. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 71–82. California State University, Fullerton; Federal Home Loan Bank Board.

320 Fiscal Theory and Policy; Public Finance

321 Fiscal Theory and Policy

Akin, J. S.—Estimates of State Resource Constraints Derived from a Specific Utility Function: An Alternative Measure of Fiscal Capacity

The measurement of ability of governmental units to pay for public goods and services from own funds has often been attempted. Because of past omission of private expenditures and implied welfare results from explicit consideration in such measurement, the past methods are less than satisfactory. This research suggests a methodology that shows promise for eventual estimation of a more conceptually pleasing utility-function–based measure of fiscal capacity. The method attempts to estimate levels of state utility attainable, given the total resource constraint that controls purchasing capacity for both publicly-provided and private goods and services. A demonstration of the method is carried out with actual estimation of the Houthakker indirect addilog utility function's expenditure system. *Nat. Tax J.*, March 1979, *32*(1), pp. 61–71. University of North Carolina, Chapel Hill.

Clotfelter, C. T.—Equity, Efficiency, and the Tax Treatment of In-Kind Compensation

Conventional equity and efficiency criteria are employed to analyze the tax treatment of in-kind benefits, which may range from explicit fringe benefits to expenditures that are made only partly because of the enjoyment they provide. It is argued that public finance theory provides little support, in terms of either horizontal or vertical equity, for changing the present tax-free status of most in-kind benefits. Both criteria nevertheless remain important in discussions of tax policy. Finally, optimal deductibility and inclusion rules are derived for expenditures that have both "productive" and compensation components. *Nat. Tax J.*, March 1979, *32*(1), pp. 51–60. University of Maryland.

Creedy, J.—Negative Income Taxes and Income Redistribution

This paper examines income redistribution under alternative negative income tax schemes. Attention is given to the effect on the coefficient of variation of income as a result of revenue—neutral changes in marginal rates of taxation. Previous studies have concentrated on redistribution between two groups (those above and below a threshold income) and have ignored the overall redistributive impact, which arises because of progressivity. It is shown that the relationships between a guaranteed minimum income and the marginal tax rate, and between the coefficient of variation of post-transfer income and the tax rate, are linear. The results suggest that the redistributive impact of negative income tax schemes has previously been underestimated. *Oxford Bull. Econ. Statist.*, Nov. 1978, *40*(4), pp. 363–69. University of Durham, England.

Harris, R. G. and MacKinnon, J. G.—Computing Optimal Tax Equilibria

This paper proposes a technique for computing optimal taxes in a full general equilibrium model. It is based upon a fixed point algorithm

of the type that is widely used to solve Walrasian general equilibrium models. Computing an optimal tax equilibrium is more difficult than solving a general equilibrium model only to the extent that the derivatives of the social welfare function and of the consumer demand functions must be calculated in the former case. Solutions to several sample problems are provided to demonstrate the technique. They suggest that optimal tax rates are exceedingly sensitive to the specification of the model used to derive them. *J. Public Econ.*, April 1979, *11*(2), pp. 197–212. Queen's University, Kingston, Ontario.

Morgan, D. R.—Fiscal Policy in Oil Exporting Countries, 1972–78

This paper shows that the conventional presentation of fiscal and monetary accounts is inappropriate for examining the impact of fiscal policy on the domestic economies of oil exporting countries. An alternative presentation is provided that focuses on the domestic budget deficit and its implications for domestic liquidity creation. Application of the alternative framework to six major oil-exporting countries for the period 1972–78 provides strong support for the propositions that the domestic budget deficit is the primary determinant of movements in domestic liquidity and inflation and that fiscal policy must be the primary instrument of demand management. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 55–86 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

Neumark, F.—Wandlungen in der Beurteilung eingebauter Steuerflexibilität (Changes in the Appraisal of Built-in Tax Flexibility)

Whereas until the sixties, "built-in-flexibility" was considered a most efficient instrument of fiscal stabilization, of late, new theoretical insights as well as experiences in several countries have led to rather pessimistic judgements: (1) Governments did not fulfil the conditions that are necessary for successful stabilization; above all, in a boom they did not "sterilize" the additional revenue, and they were forced to follow some sort of "tax indexation" with respect to progressive personal taxes or to rely more on indirect taxes. (2) Taxpayers often did not react to variations in their tax burdens in the way assumed in earlier theoretical studies. *Kyklos*, 1979, *32*(1/2), pp. 177–204 (German). University of Frankfurt.

Pryor, Z. P.—Czechoslovak Fiscal Policies in the Great Depression

The purpose of this article is to demonstrate that the allegedly orthodox fiscal policies of the Czechoslovak government in the 1930's served a substantial countercyclical role. Using an analytic approach pioneered by Bent Hansen and employing recently published national accounts estimates to calculate a simple econometric model of the interwar Czechoslovak economy, a quantitative evaluation of the impact of automatic stabilizers, discretionary fiscal policy, and certain foreign exchange policies is obtained. The results suggest a need for a reevaluation of current interpretations of the economic history of Czechoslovakia in that period. *Econ. Hist. Rev., 2nd Ser.*, May 1979, *32*(2), pp. 228–40. Temple University, Philadelphia.

Vehorn, C. L.—Market Interaction between Public and Private Goods: The Demand for Fire Protection

This paper extends recent empirical work on the demand for public goods by examining market interaction between publicly-provided and privately-provided goods, for the case of fire protection. A simultaneous equations model, based on the median voter framework, is developed and estimated. The cross-sectional results indicate that homeowners insurance and fireproofing materials are substitutes for public fire protection, since the cross-price elasticities are positive and significant. This evidence indicates that public officials should be prepared to deal with an increase in the demand for fire protection if the prices of private market substitutes rise. In a Post–Proposition 13 world the results suggest that voters can and do seek private alternatives to publicly-provided goods. *Nat. Tax J.*, March 1979, *32*(1), pp. 29–39. Georgetown University, Washington, D.C.

Whalley, J.—Uniform Domestic Tax Rates, Trade Distortions and Economic Integration

This paper examines the argument that uniform indirect tax rates are necessary to remove trade distortions for participating countries in economic integration. In a simple goods mobile, factor immobile international trade model it is shown that uniformity of tax rates is not necessary with either a general origin or destination based tax. Under a restricted origin basis, absence of distortion is only possible if trade is bilaterally balanced, in which case uniform or non-uniform rates across countries serve equally well. *J. Public Econ.*, April 1979, *11*(2), pp. 213–21. University of Western Ontario, London, Canada.

323 National Taxation and Subsidies

Choudhry, N. N.—Measuring the Elasticity of Tax Revenue: A Divisia Index Approach

This paper proposes a method of estimating the elasticity of total tax revenue that does not require the traditional adjustment of historical revenue to eliminate effects of past discretionary tax changes. An index of discretionary tax change analogous to an index of technical change is constructed using the principle of the Divisia index. Buoyancy of historical revenue estimated by standard regression technique is then suitably adjusted by this index. Despite some limitations, the results of applying this methodology to widely differing countries are found to conform to the nature and overall direction of discretionary tax changes in these countries. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 87–122 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

Dixit, A. K.—Price Changes and Optimum Taxation in a Many-Consumer Economy

A general equilibrium model of a many-consumer economy with commodity taxation is set up, and comparative static effects of small perturbations are studied. Production involves fixed factors, which can be interpreted as repositories for pure profits, thus allowing taxation of profits at arbitrary rates. The question of whether the best local improvement starting from a production efficient point will lead to inefficiency is studied. The main concern is whether it will be optimal to rely on profit taxation alone given that it is feasible to do so. An affirmative answer is obtained in special cases where such policy yields the first best, and when the consumers are scaled replicas of one another. *J. Public Econ.*, April 1979, *11*(2), pp. 143–57. University of Warwick, Coventry, England.

Englebrecht, T. D.; Copeland, R. M. and Davison, D. L.—An Empirical Inquiry into the Tax Court's Utilization of Guidelines for Valuing Closely Held Stock for Estate and Gift Tax Purposes

A multiple regression model was used to validate guidelines established by the Internal Revenue Code, Treasury regulations, and administrative rulings for valuing closely held stock for estate and gift tax purposes. The model consisted of 19 variables. Data for 47 Tax Court cases, representing 67 valuation observations, were examined by the model, and 9 significant (0.05 level) variables were identified. A holdout sample was used to establish the stability of parameter estimates. *Neb. J. Econ. Bus.*, Spring 1979, *18*(2), pp. 63–80. University of Oklahoma, Norman; University of South Carolina, Columbia; Arizona State University, Tempe.

Habib, J. and Lerman, R. I.—Options in Income Support for the Aged: A critique of the Two-Tier Approach

Support for the two-tier approach to income maintenance for the aged is becoming widespread. Two-tier formulas combine an income-conditioned bottom tier with an earnings-related top tier to achieve antipoverty and earnings replacement objectives. This paper first refutes the claim that the two-tier approach is generally more target-efficient in reaching the poor than is the earnings-related top tier with progressive replacement rates. Next, the paper compares the effectiveness of the two systems in terms of other goals. The paper concludes by showing that a top tier with a low tax on current income can virtually dominate a wide range of two-tier formulas. *J. Public Econ.*, April 1979, *11*(2), pp. 159–77. U.S. Department of Labor, Washington, D.C.

Okner, B. A.—Distributional Aspects of Tax Reform during the Past Fifteen Years

Individual tax changes during the past 15 years have reduced effective rates at all income

levels; in fact, this study indicates we have enjoyed a *de facto* "over-indexing" of the federal income tax during the period. Also, each of the past acts distributed a disproportionately large share of the relief to those in the low- and lower-middle income groups—developments that served to maintain tax progressivity. The Revenue Act of 1978, however, greatly changed this pattern. These results are derived from an empirical study in which different tax provisions of the past 15 years were applied to 1978 tax return information. *Nat. Tax J.*, March 1979, *32*(1), pp. 11–27. Department of the Treasury, Washington, D.C.

Rivers, R. and Crumbley, D. L.—The Timing Problem for the Unified Estate and Gift Tax

Massive tax changes in 1976 eliminated the old two-tax system and installed a single, progressive transfer tax on the cumulative total of both lifetime gifts and property owned at death. A dynamic programming model is formulated in order to indicate the continued importance of timing in lifetime transfers for estate planning. Heuristic guidelines are provided because the new law does not nulify the appropriateness of lifetime gifts as a major estate planning function. *J. Risk Ins.*, March 1979, *46*(1), pp. 125–38. South Illinois University, Carbondale; Texas A&M University, College Station.

Tait, A. A.; Grätz, W. L. M. and Eichengreen, B. J.—International Comparisons of Taxation for Selected Developing Countries, 1972–76

The paper reviews the controversial measures of "tax effort," updates previous studies, and compares current results to earlier findings. Some trends in taxation are described. A new, broader sample of countries is used to show the vulnerability of absolute tax indices to changes in the sample. However, rankings prove to be relatively stable. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 123–56 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

324 State and Local Government Finance

Bowman, J. H.—Federal Restrictions on State Taxation of Military Pay Revisited: A Note on Tax Avoidance through Domicile Shifting Following Removal of the Withholding Prohibition

As a part of the Tax Reform Act of 1976, Congress ended the federal prohibition against withholding of state income taxes from military pay. This change promises improved tax compliance and administration. But because the domicile-only jurisdictional rule imposed on the states for taxation of military pay was not also ended, the advent of withholding has prompted many military personnel to change their domiciles to states not taxing military pay. The jurisdictional rule should be changed to remove this avenue of tax avoidance and to improve the equity of state income taxes in other respects. *Nat. Tax J.*, March 1979, *32*(1), pp. 41–49. Indiana University, Bloomington.

Katz, H. C.—The Municipal Budgetary Response to Changing Labor Costs: The Case of San Francisco

This paper analyzes how expenditures of the city of San Francisco were altered in response to changes in municipal labor costs over the period 1945 through 1976. A hybrid of the "demands" and the "organizational" models of budgeting is used to measure the budgetary response to changes in the relative prices of labor inputs. Descriptive and econometric evidence reveals significant adjustments both among and within departments in reaction to changes in relative labor costs. The empirical evidence demonstrates that the city's budgetary process is guided by simple allocative rules modified by price-responsive adjustments. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 506–19. Massachusetts Institute of Technology.

400 International Economics

410 International Trade Theory

411 International Trade Theory

Arad, R. W. and Hillman, A. L.—Embargo Threat, Learning and Departure from Comparative Advantage

This paper extends the current analysis of trade embargo threats, initiated by Jagdish N. Bhagwati and T. N. Srinivasan, Wolfgang Mayer, and others using general equilibrium analysis, to a situation where there is the possi-

bility of lowering the future cost of production of the potentially embargoed good as a result of learning-by-doing. *J. Int. Econ.*, May 1979, *9*(2), pp. 265–75. Tel-Aviv University.

Berglas, E.—Preferential Trading Theory: The *n* Commodity Case

This is a general equilibrium analysis of preferential trading. A method was developed that allows the analysis of the many-good case, and which suggests the tools for empirical studies. It is shown that increasing the number of commodities beyond two introduces new considerations. It is, however, always possible to identify welfare-increasing tariff changes. The study analyzes the interrelationship between preferential trading and a unilateral movement to free trade. The effect of a customs union on income distribution among union members is emphasized. *J. Polit. Econ.*, April 1979, *87*(2), pp. 315–31. Tel-Aviv University.

Chang, W. W.—Some Theorems of Trade and General Equilibrium with Many Goods and Factors

This paper examines various theorems of trade and general equilibrium in a generalized framework involving arbitrary numbers of goods and factors. It derives explicit expressions for the Stolper–Samuelson matrix, the Rybczynski matrix, the matrix that measures the effect of a change in factor endowments upon factor rewards at constant commodity prices, and the matrix that measures the effect of a change in commodity prices upon outputs at constant factor endowments. Various problems such as factor-price equalization, indeterminacy in production when the number of commodities exceeds the rank of input-coefficient matrix, and the degree of flatness of the production transformation surface are examined. *Econometrica*, May 1979, *47*(3), pp. 709–26. State University of New York, Buffalo.

Choudhri, E. U.—The Pattern of Trade in Individual Products: A Test of Simple Theories

The paper tests the performance of three well-known theories of the pattern of trade based on factor proportions, economies of scale, and technology. A linear probability regression model is used to examine the direction of trade in a large number of manufactured products, for a representative sample of seven countries. The study finds that while the scale economy explanation does not work, both the factor proportions and neo-technology accounts perform well. Combining the two successful explanations, an interesting result is that the influence of capital intensity is significant only among low-technology products. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 81–98. Carleton University, Ottawa.

Deardorff, A. V.—Weak Links in the Chain of Comparative Advantage

This paper examines the proposition that trade in many commodities can be explained by a chain of comparative advantage. It is first shown, in a two-country, two-factor model, that trade accords with the ranking of goods by factor intensity if there are unequal factor prices, free trade, and only final goods. This result continues to hold if either trade impediments or intermediate products are introduced. However, if both are present, the chain proposition breaks down. Finally, with many countries, it is shown that trade impediments alone can invalidate the chain proposition. *J. Int. Econ.*, May 1979, *9*(2), pp. 197–209. University of Michigan, Ann Arbor.

Drabicki, J. Z. and Takayama, A.—An Antinomy in the Theory of Comparative Advantage

This paper shows that the usual bilateral rule of comparing relative prices under autarky to determine the pattern of trade is not valid for the multicommodity world. In addition, equilibrium world price ratios need not fall between the corresponding price ranges under autarky. Such a paradox disappears under gross substitutability when the third commodity is a non-tradable. For the case of tradables, an alternative bilateral rule to determine the pattern of trade is proposed. Since the classical constant cost case has been heavily discussed in the literature, we confine ourselves to the neoclassical case. *J. Int. Econ.*, May 1979, *9*(2), pp. 211–23. University of Arizona, Tucson.

Ethier, W. J.—The Theorems of International Trade in Time-Phased Economies

Numerous recent studies conclude that the basic results of the Heckscher–Ohlin theory are vitiated by "capital": a collection of heterogeneous produced means of production, where production takes time and the interest rate is positive. This paper examines the sensitivity of the four basic theorems to the presence of capital and concludes that all four are impervious. The pessimistic conclusions permeating the literature are consequently due not to the nature of capital but rather to other departures from the two-by-two neoclassical model, departures that can be handled fully in a timeless context and, for the most part, have been. *J. Int. Econ.*, May 1979, *9*(2), pp. 225–38. University of Pennsylvania.

Falvey, R. E.—Specific Factors, Comparative Advantage and International Investment: An Extension

The Heckscher-Ohlin-Samuelson and Specific Factor trade models have a common short-coming when treating trade restrictions and capital mobility. In both structures any tariff is prohibitive, short of specialization, since capital flows, responding to the return differential created by the tariff, simply relocate world production until trade is eliminated. This paper develops a new structure, which combines elements of the Heckscher-Ohlin-Samuelson and Specific Factor models, thereby retaining most of the traditional features of trade models, yet permits capital mobility without such extreme consequences. The implications of trade restrictions for real factor returns, *etc.*, are then developed. *Economica*, Feb. 1979, *46*(181), pp. 77–82. Tulane University, New Orleans.

Fortune, J. N.—Income Distribution and Linder's Thesis

Linder has hypothesized that similarities in per capita incomes and geographical distance between exporting and importing countries are determinants of bilateral trade intensities. This paper develops a theoretical model that incorporates the distribution of income within each importing country as an additional determinant. The distinction between high technology new products and standardized products is also integrated into the model. These extensions result in an estimating equation, which provides a significant, but small, improvement in the explanation of bilateral trade intensities. Furthermore, the paper shows that reductions in the variance of the income distribution increase countries' bilateral per capita imports. *Southern Econ. J.*, July 1979, *46*(1), pp. 158–67. University of Windsor, Ontario.

Ghosh, D. K.—Trade Model with Nontraded Sector: Economic Expansion and Immiserization

This paper analyzes the effects of growth upon resource allocation and Rybczynski magnification effects of economic expansion for a model of trade with a non-traded sector. In this generalized framework it is proven that if the usual conditions for immiserizing growth, as enunciated by Jagdish Bhagwati in the 2×2 trade model, exist, then net complementarity between the non-traded and the importable goods increases the degree of immiserization, and even if those conditions are absent, growth can nevertheless be damnifying. It is furthermore established that high import duties and/or gross complementarity between the non-traded and the importable goods, among other things, increase(s) the risk of immiserization for a growing economy. *Southern Econ. J.*, July 1979, *46*(1), pp. 244–55. Rutgers University, Camden, New Jersey.

Pelcovits, M. D.—The Equivalence of Quotas and Buffer Stocks as Alternative Stabilization Policies

The choice of an optimal policy when the foreign supply curve is unstable has been considered separately in two earlier articles. Both authors have shown that price stabilization is welfare increasing if a tariff set for noneconomic reasons is about 100 percent. The fact that both achieve the same result despite the choice of different stabilization measures is taken up in this article. It is found that price stabilization through quotas or buffer stocks will have the same effect on economic welfare despite their differing impact on the level of imports under varying supply conditions. *J. Int. Econ.*, May 1979, *9*(2), pp. 303–07. University of Maryland, College Park.

Rothschild, K. W.—Aussenhandelstheorie, Aussenhandelspolitik und Anpassungsdruck (Foreign Trade Theory, Foreign Trade Policy and the Adjustment Problem)

Traditional foreign trade theory is characterized by a normative allocation-oriented welfare outlook. Since welfare is measured exclusively in terms of material goods, complete free trade emerges as the predominant policy description. But "welfare" is also influenced by the unemployment and redeployment effects connected with unrestricted free trade. These frictions will grow in a less expansionist world with a high degree of technological change. Flexible regulations in international trade to permit a trade-off between trade restrictions and unemployment may be desirable. In the final section a revision of the GATT rules is discussed from this point of view. *Kyklos*, 1979, *32*(1/2), pp. 47–58 (German). Johannes-Kepler University, Linz, Austria.

Smith, M. A. M.—Intertemporal Gains from Trade

The gains-from-trade theorems of atemporal trade theory have direct analogues in intertemporal models. The apparent paradoxes that arise in the comparison of steady states disappear when the complete time paths of perfectly competitive trade and autarky equilibria in a general intertemporal linear production model are considered. The analysis can be extended to cover international investment. *J. Int. Econ.*, May 1979, *9*(2), pp. 239–48. London School of Economics.

Uekawa, Y.—The Theory of Effective Protection, Resource Allocation and the Stolper–Samuelson Theorem: The Many-Industry Case

In this paper the following principal results will be established: (1) In the general equilibrium model with many industries, many primary factors, many imported inputs, and nonseparable production functions, necessary and sufficient conditions for which the effective protection (ERP) theory works in the sense defined by Jagdish N. Bhagwati and T. N. Srinivasan under their (B–S) restriction on tariff changes are presented. (2) Necessary and sufficient conditions for the strong Stolper–Samuelson theorem to hold are presented. (3) Under certain special conditions the weak Stolper–Samuelson theorem holds. *J. Int. Econ.*, May 1979, *9*(2), pp. 151–71. Kobe University of Commerce, Japan.

Wegge, L. L.—Conjugate Small Country Production Equilibrium Concepts

Conjugacy theory is utilized and developed to develop an interpretation of the production equilibrium in general equilibrium in terms of the properties of sectoral value-added functions and in terms of the relative influence of each sector on all other sectors in a small country's economy. The exact relationship between the comparative static system thus analyzed and the one traditionally built on equilibrium in terms of the vector of factor prices and gross output levels is delineated. The major contributions to the theory of effective protection are also illuminated. *J. Int. Econ.*, May 1979, *9*(2), pp. 173–96. University of California, Davis.

Young, L.—Ranking Optimal Tariffs and Quotas for a Large Country under Uncertainty

Optimal tariffs and quotas are compared for a large country under uncertainty. If the import supply schedule has constant elasticity and is subject to multiplicative uncertainty and domestic demand is random, then the optimal policy is a fixed *ad valorem* tariff. If the supply schedule has constant elasticity but this elasticity is random, then the optimal tariff is superior to the optimal quota. If the demand and supply schedules are linear, then the optimal quota is superior to the optimal tariff if and only if the supply schedule is inelastic and the degree of uncertainty in the demand and supply schedules is small. *J. Int. Econ.*, May 1979, *9*(2), pp. 249–64. University of Canterbury, Christchurch, New Zealand.

420 Trade Relations; Commercial Policy; International Economic Integration

421 Trade Relations

Balassa, B.—The Changing Pattern of Comparative Advantage in Manufactured Goods

The empirical estimates presented in the paper show that intercountry differences in the structure of manufactured exports are in large

part explained by differences in physical and human capital endowments. The results lend support to the "stages" approach to comparative advantage, according to which the structure of exports changes with the accumulation of physical and human capital. The policy implications of the results for the developing countries are also indicated in the paper. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 259–66. Johns Hopkins University and World Bank, Washington, D.C.

Barker, T. S.—Identification of Activity Effects, Trends, and Cycles in Import Demand

A simple linear model for import demand with the cyclical term as deviations from trend income exposes an identification problem. Published work on U.S. and U.K. imports is reinterpreted in the light of this analysis, in particular the implicit imposition of unit activity elasticities is examined. Results are presented summarizing estimates of 32 import functions for the U.K., 1955–72, unrestricted and with separate restrictions on the activity, cyclical, and trend terms. These results show how positive and significant cyclical and trend terms could result from misspecified functions. An incidental result is that the cyclical effects on imports are negative for some declining industries. *Oxford Bull. Econ. Statist.*, Feb. 1979, *41*(1), pp. 63–68. University of Cambridge.

Bond, M. E.—The World Trade Model: Invisibles

An econometric model of imports and exports of invisibles is specified and estimated for the 14 major industrial countries. Invisibles comprise six groups—freight transportation, passenger transportation and travel, other services, investment income, workers' earnings and remittances, and transfers. The model determines the volume and/or value of exports and imports for each group. The empirical results demonstrate that imports and exports are strongly influenced by income, activity levels, relative prices and exchange rates, transportation prices, interest rates, and merchandise flows, and that some groups of investment income flows are homogeneous with respect to asset and liability levels and earnings. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 257–333 (summaries in French and Spanish). International Monetary Fund, Washington, D.C.

De Grauwe, P.; Kennes, W.; Peeters, T. and Van Straelen, R.—Trade Expansion with the Less Developed Countries and Employment: A Case Study of Belgium

The main findings of this study can be summarized as follows. A balanced expansion of the Belgian trade with the LDC's has a small negative impact on the total demand for labor in the Belgian economy. This small aggregative effect, however, hides important opposite shifts in the sectoral demands for labor. As a result, a balanced expansion of trade with the LDC's requires a sufficient degree of sectoral factor mobility if prolonged unemployment is to be avoided. In addition, given the important differences in factor content between imports from LDC's and Belgian exports towards LDC's, increased trade with the LDC's necessitates significant changes in relative factor prices in Belgium if full employment is to be maintained. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 99–115. Catholic University of Louvain, Belgium.

Rogge, P. G.—Weltwirtschaftliche Faktorallokation als Problem einzelstaatlicher Wirtschaftspolitik (The Allocation of World Resources as a Problem of National Economic Policy)

The economic structure of Northwest Europe has recently given rise to concern: several traditional industry branches with high employment volumes seem oversized against the present pattern of international division of labor. Vice versa, some industrializing countries outside Europe seem to have been deprived of their industrialization potential. Massive shifts in this international location map are pushed ahead by forces such as the realignment of exchange rates and raw material prices, with cost differentials between countries in the employment of foreign workers and operation of pollution industries added. Europe has to re-appraise its economic structures and devise new policies for restructuring. *Kyklos*, 1979, *32*(1/2), pp. 331–49 (German). Prognos, Basle, Switzerland.

Tovias, A.—The Outcome of Closer Economic Links with the EEC for LDCs' Exports Previously Dumped in World Markets: An Empirical Investigation

This paper considers the case of particular industries in developing countries around the Mediterranean, which are used to practicing dumping in world markets for a number of years. The progressive economic association of these countries with the EEC is eliminating this highly visible distortion, but is promoting new distortions by fostering production at a cost no longer competitive at the world level. The paper includes empirical evidence presented in order to provide this point. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 121–32. University of Kent at Canterbury.

422 Commercial Policy

Gelb, A. H.—On the Definition and Measurement of Instability and the Costs of Buffering Export Fluctuations

The purpose of this paper is to place the definition and measurement of instability on a rigorous basis using Fourier-Analytic Methods. Costs imposed by fluctuations are shown to depend critically on their frequencies, but not monotonically. Upper bonds are established for costs of buffering high-frequency export revenue fluctuations for 36 countries and are shown to be small. Buffering costs are far larger for medium-frequency changes. The relationship between the demand for international reserves and reserve conditionality is addressed. Less restrictive instability definition and longer policy horizons are advocated. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 149–62. The World Bank, Washington, D.C.

Golub, S. S. and Finger, J. M.—The Processing of Primary Commodities: Effects of Developed-Country Tariff Escalation and Developing-Country Export Taxes

Both developed country (DC) tariffs and LDC export taxes are "escalated" to protect local processors of primary commodities. The paper develops an analytical model of North–South commodity trade, which is used to estimate the effects of reciprocal elimination of these trade barriers for eight commodities. It is estimated that processing would increase by 9 percent in the LDC's and decline by less than 1 percent in the DC's. LDC export revenue for the eight commodity sample would increase by 11 percent, or just over $1 billion (based on 1973 trade flows), which is considerably more than the estimated effect of the Generalized System of Preferences. *J. Polit. Econ.*, June 1979, *87*(3), pp. 559–77. Board of Governors of the Federal Reserve System; U.S. Department of the Treasury.

423 Economic Integration

Papantoniou, J.—Foreign Trade and Industrial Development: Greece and the EEC

The approach rests on the premise that external demand has been, and will be, the most important determinant of Greek manufacturing growth. The conclusion is that the trading arrangements that EEC membership will bring about will hinder the growth of markets for Greek manufactures and hence retard industrialization. Only a massive inflow of foreign capital could refute this prediction, but this is neither likely nor desirable. As the full implementation of the existing association agreement with the EEC would produce comparable results, a new form of economic relationship is advocated, which would serve Greece's longer-term interests better than present options. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 33–48. University of Athens.

Shmelev, N.—Problems of an All-European Economic Cooperation

Peace in Europe cannot be achieved through purely political means. The basic norms of international behavior include economic cooperation bearing mutual advantages for each state irrespective of its social system. Modern economic development requires the international division of labor too. Achievements of East–West economic relations include the participation of the Federal Republic of Germany, France, and Italy in industrial reconstruction and exploration of natural resources in CMEA countries. *Acta. Oecon.*, 1977, *19*(3–4), pp. 379–93. Institute of Economics of World Socialist System, U.S.S.R. Academy of Sciences.

430 Balance of Payments; International Finance

431 Balance of Payments: Mechanisms of Adjustment; Exchange Rates

Argy, V. and Salop, J.—Price and Output Effects of Monetary and Fiscal Policy under Flexible Exchange Rates

This paper analyzes the effects of monetary and fiscal policy on prices, output, and the exchange rate under alternative specifications of the labor market. With the Keynesian formulation, the familiar results obtain: Monetary policy is effective and fiscal policy ineffective in influencing the level of activity. If real wages are rigid, however, monetary policy affects only prices and the exchange rate; expansionary fiscal policy raises output and, because of repercussions of tax increases on take-home wages, the balanced budget multiplier is negative. A vicious circle can result from expansion directed at reducing unemployment caused by an OPEC-type shock. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 224–56 (summaries in French and Spanish). Macquarie University, Sydney, Australia; International Monetary Fund, Washington, D.C.

Bernholz, P.—Flexible Exchange Rates, Employment and Inflation in a Small Country

Exchange rate fluctuations, over- and under-evaluations have been important since 1973 and in the time of earlier exchange rate flexibility, *e.g.*, in the early twenties, in spite of the long-run validity of the purchasing power parity theorem. Recent theoretical explanations and an eclectic scheme of possible reasons are discussed. An application of the theory of competing currencies shows the importance of the demand for different monies as assets and the growth rates of their supplies for amplitude and dynamics of exchange rate fluctuations. Some policy implications are drawn for a small country, and some policy proposals are discussed. *Kyklos*, 1979, *32*(1/2), pp. 7–24. University of Basle, Switzerland.

Bilson, J. F. O.—Recent Developments in Monetary Models of Exchange Rate Determination

The seminal contributors to the monetary approach to the balance of payments suggested that the approach could be applied to a flexible exchange rate regime with only minor modifications. The persistent deviations from purchasing power parity and the large variance of short-term exchange rate movements, however, are inconsistent with the theory. This paper reviews three attempts to reconcile the monetary approach with the empirical characteristics of the flexible rate period. An integrated model, capable of empirical verification, is also presented. *Int. Monet. Fund Staff Pap.*, June 1979, *26*(2), pp. 201–23 (summaries in French and Spanish). University of Chicago.

Bilson, J. F. O.—The "Vicious Circle" Hypothesis

The vicious circle hypothesis states that exchange rate depreciation is an independent source of inflation and an ineffective instrument for international adjustment. These arguments are examined in a dynamic general equilibrium model of a small open economy. The model demonstrates that exchange rate changes appear to "cause" inflation when disturbances are monetary, and that the primary determinants of policy effectiveness are speed of price and wage adjustment and openness of the economy. Finally, a combination of expansionary fiscal policy and tight monetary policy is shown to be capable of breaking an inflationary spiral without inducing a prolonged period of unemployment. *Int. Monet. Fund Staff Pap.*, March 1979, *26*(1), pp. 1–37 (summaries in French and Spanish). University of Chicago.

Chambers, R. G. and Just, R. E.—A Critique of Exchange Rate Treatment in Agricultural Trade Models

The recent theoretical and empirical literature on the role of exchange rates in agricultural prices and trade is reviewed. Specifically, alternative specifications of the exchange rate in excess demand functions are considered. Results show that the specification most common in recent theoretical and empirical work is unnecessarily restrictive and may bias the resulting analysis. Several less restrictive specifications for empirical research are suggested. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 249–57. University of California, Berkeley.

Deardorff, A. V.—One-Way Arbitrage and Its Implications for the Foreign Exchange Markets

The relationship between spot and forward exchange rates and domestic and foreign interest rates is examined with transactions costs in all markets. Market participants choose the least-cost method of exchanging currencies in these markets, thus engaging in one-way arbitrage if that is preferable to a direct transaction. One-way arbitrage consists of using one exchange market and the two securities markets to replace a direct transaction in the other exchange market. It is shown that one-way arbitrage should prevent rates from ever departing enough from interest parity for conventional covered interest arbitrage to break even. *J. Polit. Econ.*, April 1979, *87*(2), pp. 351–64. University of Michigan, Ann Arbor, and Institute for International Economic Studies, University of Stockholm.

Enders, W. and Lapan, H. E.—Stability, Random Disturbances, and the Exchange Rate Regime

The paper considers a small open economy subject to stochastic disturbances in the production of both a traded and a non-traded good, the money supply and/or demand function, and disturbances emanating abroad. The effects of these disturbances on consumption and relative prices are examined under alternative exchange rate regimes. It is shown that relative price movements tend to be serially correlated under fixed exchange rates but are serially uncorrelated under flexible rates. Capital mobility acts to reduce any difference between the alternative exchange regime, and if the exchange market is efficient, the two exchange regimes produce identical effects. *Southern Econ. J.*, July 1979, *46*(1), pp. 49–70. Iowa State University, Ames.

Flood, R. P.—An Example of Exchange Rate Overshooting

This paper shows that models that neglect the dynamic relationship between asset markets and the current account, under flexible exchange rates, will systematically underpredict exchange rate volatility in response to monetary disturbances. The models ~~used in~~ the paper assume rational expectations, and the results are shown to be robust to very general monetary disturbances. *Southern Econ. J.*, July 1979, *46*(1), pp. 168–78. University of Virginia, Charlottesville.

Horne, J.—The Effect of Devaluation on the Balance of Payments and the Labour Market: United Kingdom, 1967

This paper examines empirically the effectiveness of the 1967 sterling devaluation as a policy instrument and the critical factors behind its "success" or "failure." The theoretical framework used is the monetary approach to the balance of payments. A disequilibrium model of a small, open economy is specified in continuous time, and its discrete time equivalent is estimated by a full-information-likelihood method. The simulation results show that the 1967 devaluation exercised significant effects on the stock of foreign reserves and the level of employment by early 1969. These effects are attributed in part to the slow response of nominal wages and the strength of the balance of payments response to the money market. *Economica*, Feb. 1979, *46*(181), pp. 11–25. University of Melbourne.

Kaminow, I. P.—Economic Stability under Fixed and Flexible Exchange Rates

This paper analytically compares maroeconomic performance under fixed and flexible exchange-rate regimes. A model is developed in which the economy is stable around full employment, but subject to periodic random shocks. From the model, conditions are derived that allow comparison (across exchange-rate regimes) of the size of the expected squared deviation from full employment income in any arbitrarily selected period. These conditions are stated in terms of the variances and elasticities of particular behavioral relations. *J. Int. Econ.*, May 1979, *9*(2), pp. 277–85. Government Research Corporation, Washington, D.C.

Miles, M. A.—The Effects of Devaluation on the Trade Balance and the Balance of Payments: Some New Results

This paper examines the statistical relationship between devaluation and both the trade

balance and the balance of payments for 16 devaluations of 14 countries in the 1960's. Using several tests involving both the seemingly unrelated and pooled cross-section time-series regression techniques, the paper tests the effect of devaluation while standardizing for other variables that may affect the foreign accounts. While the balance of payments does seem to improve following devaluation, no evidence is found to support the hypothesis that devaluation improves the trade balance. The paper concludes that the adjustment to devaluation is essentially monetary in nature, involving only a portfolio stock adjustment. *J. Polit. Econ.*, June 1979, *87*(3), pp. 600–620. Rutgers University, New Brunswick, New Jersey.

Robinson, W.; Webb, T. R. and Townsend, M. A.—The Influence of Exchange Rate Changes on Prices: A Study of 18 Industrial Countries

The study starts with a theoretical justification of the proposition that parity changes must cause offsetting price changes. This proposition can only be tested given appropriate measures of each country's price and exchange rate changes. These measures allow each country's price and parity movements, relative to the world at large, to be studied. It emerges that the influence of parity changes on prices has steadily increased throughout the period studied and is larger in the more open economies. *Economica*, Feb. 1979, *46*(181), pp. 27–50. European Commission, Brussels.

Ruffin, R. J.—Tariffs, the Balance of Payments, and the Demand for Money

This paper shows that in a small country the impact of a tariff on the balance of payments depends crucially on the role of relative prices in the demand function for money. An import (export) duty has a perverse impact on the balance of payments if importables (exportables) and money are net complements, but both import and export duties cannot have a perverse impact. A relation between the impact of export and import duties is also derived and is used to re-establish a well-known theorem of James Meade on the equivalence of replacing import with export duties and currency depreciation. *J. Int. Econ.*, May 1979, *9*(2), pp. 287–302. University of Houston.

von Weizsäcker, C. C.—Das eherne Zinsgesetz (The Iron Law of Interest)

Say's theorem is not necessary to solve any problem of insufficient demand: if the long-run rate of interest falls below the long-run rate of growth, the Ponzi game of consuming out of loans works for an indefinite period of time and thus creates sufficient demand. But this very fact and the attractiveness of the Ponzi game implies that the rate of interest will not for a long period be substantially below the rate of growth. On the other hand, if there are countries with a structural balance-of-trade surplus, such as the oil countries, the world market rate of interest cannot be substantially above the rate of growth of world output. This is the iron law of interest. Fiscal policy to stimulate demand is the domestic Ponzi game. Borrowing by third world countries is the international Ponzi game. In the interest of world-wide equity, the latter is to be preferred to the former. *Kyklos*, 1979, *32*(1/2), pp. 270–82 (German). University of Bonn.

Wilson, C. A.—Anticipated Shocks and Exchange Rate Dynamics

The paper extends Rudiger Dornbusch's analysis of exchange rate dynamics to include the case where changes in government policy are anticipated before they occur. It is demonstrated that simply the announcement of an expansionary policy will cause the exchange rate to jump, which induces an expansionary impact on the economy even before the policy is implemented. *J. Polit. Econ.*, June 1979, *87*(3), pp. 639–47. University of Wisconsin, Madison.

Wilson, J. F. and Takacs, W. E.—Differential Responses to Price and Exchange Rate Influences in the Foreign Trade of Selected Industrial Countries

In 1950 Orcutt conjectured that trade flows would adjust faster to exchange-rate than to price changes. Our paper explores trade of six industrial countries during the Bretton Woods period, using equations that estimate separate distributed lags on these variables. While long-

run effects of price and exchange-rate movements are constrained to equality, short-run effects may differ. Numerous combinations of lag lengths are explored. We find Guy H. Orcutt's conjecture was substantially correct. The evidence also suggests: (a) that the full-adjustment horizon was no more than three years; and (b) trade flows were more sensitive to importers' domestic prices than to foreign prices. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 267–79. Board of Governors of the Federal Reserve System, Washington, D.C.; University of Maryland, Baltimore.

432 International Monetary Arrangements

de Cecco, M.—Origins of the Post-War Payments System

This paper tries to analyze the role assigned to international capital movements by the Keynes, White, and Williams Plans for the reconstruction of the international monetary system after the Second World War, and the view that the Bretton Woods Agreements finally took of them. The article then goes on to show how international capital movements, in spite of the greatly reduced role assigned to them at Bretton Woods, can be held responsible for several important events that upset the functioning of the new international monetary system in the early postwar period. Within this context, the article finally tries to present the often divergent positions held, in the course of those years, by different power centers in the United States and in Britain. *Cambridge J. Econ.*, March 1979, *3*(1), pp. 49–61. University of Siena, Italy.

440 International Investment and Foreign Aid

441 International Investment and Capital Markets

Hartman, D. G.—Foreign Investment and Finance with Risk

Risk-averse individual asset owners are shown to prefer that the placement of capital abroad be coupled with borrowing at the location where the capital income is produced. The more responsive is the real stream of capital returns to exchange rate changes, the stronger is this incentive. This consideration of risk also implies that the effects of government policies could be quite different from those usually assumed. In particular circumstances, it is shown that an increase in the tax on foreign source income should cause the stock of capital in place abroad to rise. *Quart. J. Econ.*, May 1979, *93*(2), pp. 213–32. Harvard University.

Ozawa, T.—International Investment and Industrial Structure: New Theoretical Implications from the Japanese Experience

The theory of international investment so far developed to explain the behavior of multinationals is postulated on the monopolistic (or oligopolistic) market structure. Yet, drawing upon the recent experience of Japan's overseas investment, this paper shows both theoretically and factually that international investment is also compatible with a relatively competitive market structure. The "bandwagon" syndrome and the "cross-the-national-rather-than-industry-boundary" behavior, both considered oligopolistic, are observable equally in the investment activities of Japanese firms in competitive industries. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 72–92. Colorado State University, Fort Collins.

500 Administration; Business Finance; Marketing; Accounting

510 Administration

512 Managerial Economics

Lee, L. W.—A Theory of Management and Its Implications for Capital Structure and Merger

In a world of incomplete information, people's ability to explain corporate performance is limited. Consequently, the market for managers shows a propensity to discount the value of a manager who has failed a firm. This gives rise to a difference between the shareholder's and the manager's interests in a corporation. The existence of a well-defined capital structure in a corporation may reflect the manager's attempt to maximize self-interest. Similarly, corporate mergers may be explained as the exercise of managerial discretion. Decision rules are derived in the context of the theory of corporate co-insurance. *Southern Econ. J.*, July 1979, *46*(1), pp. 107–18. Wayne State University, Detroit.

520 **Business Finance and Investment**

Miller, M. H. and Scholes, M. S.—Dividends and Taxes

We present sufficient conditions for taxable investors to be indifferent to dividends despite tax differentials in favor of capital gains (Strong Invariance Propositions). The conditions include two "seemingly unrelated" provisions of the Internal Revenue Code: (1) the limitation of interest deductions to investment income received and (2) the tax-free accumulation of wealth at the before-tax interest rate on investments in life insurance. Although we use insurance for simplicity in the proof, many tax-equivalent investment vehicles now exist, notably pension funds. Our analysis suggests that the personal income tax is approaching a consumption tax with further drift likely. *J. Finan. Econ.*, Dec. 1978, *6*(4), pp. 333–64. University of Chicago.

521 Business Finance

Bowman, R. G.—The Theoretical Relationship between Systematic Risk and Financial (Accounting) Variables

This paper provides a theoretical basis for empirical research into the relationship between systematic risk and financial (accounting) variables. Using the assumptions of the Capital Asset Pricing Model plus allowing firms to borrow and lend at the risk-free rate of interest, it is shown that there is a theoretical relationship between systematic risk ("beta") and the firm's accounting beta and leverage. Also, it is shown that systematic risk is not directly related to other variables. Earnings variability, dividends, size, and growth are specifically treated. However, by imposing more stringent assumptions, additional relationships can be obtained. *J. Finance*, June 1979, *34*(3), pp. 617–30. University of Orgeon, Eugene.

Ferri, M. G. and Jones, W. H.—Determinants of Financial Structure: A New Methodological Approach

This paper investigates determinants of financial structure, using a taxonomic methodology, which avoids familiar difficulties with Standard Industrial Classification (SIC) code categorizations. Test results indicate that industry class is related to leverage but less closely than has been suggested; leverage is somewhat related to firm size; income variation is associated with leverage but not in an anticipated, directly negative way; and operating leverage has the expected, negative relationship with financial leverage. The tests (employing information theoretic and multivariate discriminant analysis) dealt with data of 240 industrial firms (from Compustat Tapes) and covered the recessionary year of 1974 and the expansionary year of 1976. *J. Finance*, June 1979, *34*(3), pp. 631–44. University of Kentucky, Lexington.

Galai, D.—A Convexity Test for Traded Options

It is proved that the price of a traded option is a declining, convex function of the striking price. This result holds even when the terms of the options are not adjusted for cash dividends that are distributed to the holders of the underlying stock. The convexity condition for traded options is subjected to empirical test. The main question posed is whether knowledge of this condition could have yielded above-normal profits. A by-product of the test is the insight gained regarding the nature of closing prices of stocks and options and their reliability for testing purposes. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 83–90. Hebrew University, Jerusalem.

Geske, R.—The Valuation of Compound Options

This paper presents a theory for pricing options on options, or compound options. The method can be generalized to value many corporate liabilities. The compound call option formula derived herein considers a call option on stock, which is itself an option on the assets of the firm. This perspective incorporates leverage effects into option pricing, and consequently the variance of the rate of return on the stock is not constant as F. Black and M. Scholes assumed, but is instead a function of the level of the stock price. The Black–Scholes formula is shown to be a special case of the compound option formula. This new model for puts and calls corrects some important biases of the Black–Scholes model. *J. Finan. Econ.*,

March 1979, *7*(1), pp. 63–81. University of California, Los Angeles.

Kon, S. J. and Jen, F. C.—The Investment Performance of Mutual Funds: An Empirical Investigation of Timing, Selectivity, and Market Efficiency

This paper evaluates mutual fund stock selectivity performance and the implications for the Efficient Markets Hypothesis (EMH) when management is simultaneously engaged in market timing activities. Both the Sharpe–Lintner–Mossin and Black models of market equilibrium are employed as benchmarks. Given the fund's specification, the inference tests on the parameter estimates indicate that many funds significantly change their risk levels during the measurement interval. This behavioral also results in significantly different stock selectivity performance and portfolio diversification. The evidence on selectivity performance pertinent to the EMH is mixed. *J. Bus.*, April 1979, *52*(2), pp. 263–89. New York University; State University of New York, Buffalo.

Praetz, P. D.—Time Series and Cross-Section Tests of Higgledy-Piggledy Growth on Australian Company Earnings: 1958–73

This paper contains time-series and cross-section tests of the higgledy-piggledy growth hypothesis on a sample of Australian company earnings from 1958 to 1973. Earnings changes over time are found to be nearly random, and earnings growth has only a very weak positive relationship with past earnings and dividend growth, retained earnings, and risk. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 149–59. Monash University, Melbourne.

522 Business Investment

Smidt, S.—A Bayesian Analysis of Project Selection and of Post Audit Evaluation

Projects may be selected with identical results using (a) the Bayesian revision of their forecasted net present value and a zero present value cutoff or (b) the initial forecast and an appropriate non-zero cutoff. In post-audits, the actual results from accepted projects are compared with the forecasts used for decision-making. The value of the Bayesian forecast equals the expected actual net present value, while the value of an unbiased initial forecast is less than the expected actual value. Post-audits can help determine whether the forecasts used have the characteristics of Bayesian revisions or of initial forecasts. *J. Finance*, June 1979, *34*(3), pp. 675–88. Cornell University.

530 Marketing

531 Marketing and Advertising

Kotowitz, Y. and Mathewson, F.—Informative Advertising and Welfare

The paper analyzes the welfare implications of alternative diffusion processes in monopolistic markets. We contrast the optimal dynamic policies of a monopolist with respect to price and advertising with the socially optimal ones. We show that advertising supplied by a monopolist, in cases where products are characterized by quality that is cheaply and quickly verifiable prior to use (informative or disseminative advertising), is undersupplied by a social welfare criterion. We also show that information transmission by a monopolist may take the form of lower prices where "word of mouth" advertising is important. This type of information is also undersupplied, *i.e.*, the speed of diffusion is generally too low relative to the social optimum. Finally, we show that where both seller supplied and word of mouth advertising exist, advertising may be oversupplied relative to the social optimum. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 284–94. Institute for Policy Analysis, University of Toronto.

Meisel, J. B.—Demand and Supply Determinants of Advertising Intensity among Convenience Goods

Across a sample of consumer goods markets, the market average advertising-to-sales ratio is found to vary directly with the number of brands, the number of characteristics per brand, and the number of consumers, while the ratio varies inversely with the number of competitors and consumer experience with the product. In particular, the hypotheses developed can explain the variation in advertising-to-sales ratios within the category of goods called convenience (experience) goods. The results suggest that explaining intermarket variation in advertising-to-sales ratios requires one to focus on the interplay between firms' marketing strategies and consumers' information

gathering processes. *Southern Econ. J.*, July 1979, *46*(1), pp. 233–43. Southern Illinois University, Edwardsville.

600 Industrial Organization; Technological Change; Industry Studies

610 Industrial Organization and Public Policy

611 Industrial Organization and Market Structure

Davies, S. W.—Choosing between Concentration Indices: The Iso-Concentration Curve

This paper addresses the long-standing debate concerning the relative merits of various concentration indices and, in particular, their sensitivity to firm numbers, as opposed to size inequalities. It suggests the so-called iso-concentration curve and its numerical counterpart, the elasticity of substitution between numbers and inequalities, as analytical tools that can potentially illuminate this debate. As an example, four well-known concentration indices are compared within this framework on the assumption of lognormal size distributions. *Economica*, Feb. 1979, *46*(181), pp. 67–75. University of Sheffield, England.

Dickson, V. A.—Sub-optimal Capacity and Market Structure in Canadian Industry

This paper examines the influence of market structure on the amount of output produced in an industry by sub-optimal plants. Regression analysis for a 1966 cross-section of 70 Canadian manufacturing industries is used. Minimum optimal plant size for each industry is estimated using the survivor technique. The survivor estimates are used to construct three measures of sub-optimal capacity, all of which are used as alternative dependent variables. Among the conclusions are that the regression analysis shows that sub-optimal capacity may increase with effective tariffs and transportation costs and decrease with market size, concentration, and exports. *Southern Econ. J.*, July 1979, *46*(1), pp. 206–17. University of New Brunswick, Fredericton.

Lustgarten, S. and Mendelowitz, A. I.—The Covariability of Industrial Concentration and Employment Fluctuations

This paper analyzes the effect of industrial concentration on cyclical employment fluctuations using a covariance-based measure of employment fluctuations. This employment variable measures the extent to which employment in each sample industry fluctuates over the business cycle with movements in the rest of the economy. The test results show that the cyclical stability of employment in an industry is not adversely affected by its concentration ratio. The nature of each industry's output is the significant determinant of cyclical employment fluctuations. Adjusting for product characteristics, the tests show that cyclical employment is, if anything, more stable in concentrated industries. *J. Bus.*, April 1979, *52*(2), pp. 291–304. Bernard Baruch College, City University of New York; U.S. General Accounting Office, Washington, D.C.

Qualls, P. D.—Market Structure and the Cyclical Flexibility of Price-Cost Margins

This paper hypothesizes that the relationship between industrial concentration and the cyclical flexibility of prices (or price-cost margins) may be positive, rather than negative as conventionally held. Previous studies of the question have had difficulty in controlling for "transactions" versus "list" price problems, trend effects versus cycle effects, and changes in direct input costs. This study deals with these problems by investigating the trend-adjusted cyclical variability of price-cost margins (calculated from *Census of Manufacturers and Annual Survey of Manufactures* data) for a sample of 79 four-digit manufacturing industries over 1958–70. A significant positive relationship between industrial concentration and the cyclical flexibility of margins is found. *J. Bus.*, April 1979, *52*(2), pp. 305–25. Federal Trade Commission, Washington, D.C.

Scherer, F. M.—The Causes and Consequences of Rising Industrial Concentration

This article examines critically the meaning of the statistical tendency discovered by Sam Peltzman for unit costs to fall more rapidly in manufacturing industries with rising seller concentration. Industries with particularly large 1947–67 concentration increases are found to have been preponderantly consumer goods suppliers with a high incidence of prod-

uct innovation or marketing (*e.g.*, advertising) innovation. Cost-reducing process innovation, which was stressed by Peltzman, typically played only a secondary role. Census output measurement biases associated with product innovation are found to be another probable source of the observed unit cost behavior. It is concluded that except in industries with substantial scale economies, government deconcentration actions need not impose appreciable efficiency sacrifices. *J. Law Econ.*, April 1979, *22*(1), pp. 191–208. Northwestern University.

Sylos-Labini, P.—Industrial Pricing in the United Kingdom: Review Article

The central hypothesis of the book—that demand does not affect the price-normal cost relationship—is strongly supported by the results of a rigorous empirical analysis; but a theoretical model is necessary if we want to explain the changes of the mark-up over time. On the other hand, there are situations in which demand does affect industrial prices, either directly or indirectly. One of the several empirical findings is that the influence of international prices on internal prices is negligible. Owing to the procedure adopted, however, this result is not entirely reliable; moreover the international influences are mainly indirect. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 153–63. University of Rome.

612 Public Policy Towards Monopoly and Competition

Fisher, F. M.—Diagnosing Monopoly

This article examines the uses and abuses of economic analysis in the context of single-firm monopoly cases under Section 2 of the Sherman Act. General discussion, rather than discussion of specific cases, is given. After a review of the simple theory of competition and monopoly, issues involving market definition, market share, profits, barriers to entry, and conduct and predatory pricing are discussed. The article stresses the importance, and the difficulty, of distinguishing monopoly situations and behavior from the situations and behavior that competition is supposed to enforce. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 7–33. Massachusetts Institute of Technology.

615 Economics of Transportation

Beesley, M. E.—Competition and Supply in London Taxis

This paper explores reasons for the recent expansion of the London taxi trade and assesses the influence of demand from foreign visitors and of competition from the hire-car trade. The trend of real prices for taxis contrasts with that of buses and underground services: the paper considers the influence of changes in productivity, shifts to input prices, and innovation. This involves an exploration of supply, especially of drivers, and of the cost structure underlying fares. A principal feature turns out to be the radical changes in labor contracts, associated with free entry subject to quality constraints, for London taxis. *J. Transp. Econ. Policy*, Jan. 1979, *13*(1), pp. 102–31. London Graduate School of Business Studies.

Due, J. F.—State Rail Plans and Programs

The enactment of the 3R and 4R Acts by Congress led the states to develop rail plans in order to qualify for federal assistance for the retention of lines excluded from Conrail or subsequently abandoned. Most states have now issued their plans, and the 3R area states have completed their third updates. The states differ very widely in their attitudes toward the excluded and endangered light traffic lines. The New England states, most Mid-Atlantic states, and several midwest states have played an active role in attempting to save light traffic lines. Several of the western and southern states, however, have been unsympathetic to any active state role in retaining lines that would otherwise be abandoned. Examination of the excluded and endangered lines on the basis of information in the state rail plans shows considerable mileage with benefits of retention in excess of costs, but many of these require continuing subsidy. Most states, however, regard the subsidy program as only transitional and are emphasizing rehabilitation of lines rather than operating subsidies. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 109–30. University of Illinois, Urbana-Champaign.

Gwilliam, K. M.—Institutions and Objectives in Transport Policy

The British transport scene illustrates two types of defects that were of concern to Denys Munby: inappropriate organizational structure and poor operational criteria. Four dimensions of conflict are identified: between EEC and national policy,-between the central government and both local government and the nationalized transport boards, and between local government and local transport operators. In each case it is argued that the problems arise as a result of confusion concerning the limits of responsibility and authority of the conflicting agencies, which might be relieved through careful reappraisal of their formal relationships. *J. Transp. Econ. Policy,* Jan. 1979, *13*(1), pp. 11–27. University of Leeds, England.

Hansen, T.—The Relationship between Aggregate Costs, Employment and Cargo Capacity of the Norwegian Purse Seiner Fleet

This paper deals with the long-term aggregate costs of a purse seiner fleet with a certain aggregate employment and aggregate cargo capacity. Aggregate cargo capacity is used as a crude measure of aggregate catch capacity. It is shown that for all practical purposes, the aggregate costs of the purse seiner fleet are independent of the size structure of the fleet. As a consequence, aggregate costs may be written as a function of aggregate employment and aggregate cargo capacity. The maintenance of excess aggregate cargo capacity and a high level of aggregate employment of the purse seiner fleet are shown to be extremely costly. *Scand. J. Econ.*, 1979, *81*(1), pp. 18–29. Norwegian School of Economics and Business Administration, Bergen.

Heggie, I. G.—Economics and the Road Programme

Current methods used by the U.K. Department of the Environment in evaluating trunk road schemes are questioned on three grounds. The author argues that in the National Traffic Forecasts car use might be better forecast as a function of household characteristics and stage in the family life cycle rather than of individual car ownership and use. The method of estimating time values is unduly simplistic; there is an increasing body of empirical evidence suggesting thresholds or other types of non-linearity. The method outlined in the Department's computer program, COBA, significantly underestimates the desirability of building urban by-passes because it ignores environmental issues. *J. Transp. Econ. Policy,* Jan. 1979, *13*(1), pp. 52–67. Transport Studies Unit, University of Oxford.

Jennings, A.—Determining a Global Sum for Taxation of Road Users

In the 1977 White Paper on Transport Policy, the U.K. Government expresses its intention of revising the vehicle excise licence duty to reflect costs imposed by different vehicle categories. This paper sets out the different approaches adopted by government (different averaging periods, and survey or outturn prices) to estimate public road costs. The crucial trade-off is whether inflation is greater or less then changes in real road expenditure. Implications of the different methods of determining the global tax sum are also discussed, including the effect on inflation, road-user cost revenue ratios, and inter-modal investment coordination. *J. Transp. Econ. Policy,* Jan. 1979 *13*(1), pp. 68–78. University of Leicester, England.

Pustay, M. W.—The Transatlantic Airline Market: Exploring the Myths of Excessive, Unfair, and Predatory Competition

Recent losses suffered by U.S. airlines in the transatlantic market have led many critics to argue that the United States's traditional promarket international civil aviation policies are outmoded. Because many of the transatlantic carriers are state-owned and allegedly not motivated by profit maximization, these critics claim that transatlantic competition is excessive, unfair, and predatory. However, they have assembled little evidence to support their position. This article explores the validity of these assertions and finds that the critics are incorrect. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp.47–63. Bowling Green State University, Ohio.

Rathery, A.—Some Recent Thinking on Freight Transport Pricing in France and Switzerland

Two recent studies (one conducted in France, the other in Switzerland) run very

much counter to the interventionist practices that mark transport policy in many countries. The rules of the market should normally apply to freight transport without any pricing regulations; users should bear the full costs, including external costs, incurred on their behalf. But there is justification for doubting how far it is politically possible to apply these recommendations at a time of mounting economic difficulties. *J. Transp. Econ. Policy,* Jan. 1979, *13*(1), pp. 44–51. European Conference of Ministers of Transport, Paris.

Sharp, C. D.—The Environmental Impact of Transport and the Public Interest

In this paper an attempt is made to examine some of the more philosophical issues that arise when state action is taken to reduce the level of pollution. The nature of the "public interest" is discussed, and special attention is given to the situation in which the cost of a "public good" environmental improvement is shared equally among all beneficiaries. A "charges and voting" criterion, in which beneficiaries would be asked to vote on their willingness to pay a share of the cost of the improvement, is suggested. Decisions about speed limits and permissible routes for supersonic aircraft are used as case studies. *J. Transp. Econ. Policy,* Jan. 1979, *13*(1), pp. 88–101. University of Leicester, England.

620 Economics of Technological Change

621 Technological Change; Innovation; Research and Development

Clarke, R. J.—Innovation in Australian High Technology Industries: Two Case Studies

This article considers whether Australian firms, which tend to be small in international terms, are likely to be at a comparative disadvantage in the introduction of new products and processes in high technology industries, characterized by relatively rapid rates of science-based innovation and openness to international competition. The contrasting innovative performance of two firms in different high technology industries is compared in order to provide insight into the conditions that may favor innovation by small Australian firms in such industries. These conditions, in turn, point to the necessity for the coordination of science policy with the various arms of industrial policy in the development of a successful high technology sector. *Australian Econ. Pap.,* June 1979, *18*(32), pp. 89–102. Monash University, Melbourne.

Krugman, P.—A Model of Innovation, Technology Transfer, and the World Distribution of Income

This paper develops a simple general-equilibrium model of "product cycle" trade. There are two countries, innovating North and non-innovating South. Innovation consists of the development of new products; these can at first be produced only in North, but eventually the technology of production becomes available to South. This technological lag gives rise to trade, with North exporting new products and importing old products. Higher Northern per capita income depends on the quasi-rents from the Northern monopoly of new products, so that North must continually innovate, not only to maintain its relative position, but even to maintain its real income in absolute terms. *J. Polit. Econ.,* April 1979, *87*(2), pp. 253–66. Yale University.

630 Industry Studies

Nyitrai, V.—Comparison of the Austrian and the Hungarian Industries

The paper is an account of the second bilateral comparison of production and productivity made by Hungarian and Austrian industrial statisticians from 1975 data. As against the 1965 comparison, accurateness was improved by the consistent use of UN standard classification (ISIC) and by high commodity representation. Indicators used were: per capita production of important goods; output, employment, and productivity of main industries; productivity indices; investment composition; and energy consumption of industries by sources. The conclusions from the bilateral comparisons show that the relative productivity lag of Hungarian industry may now become an obstacle to growth. *Acta. Oecon.,* 1977, *19*(3–4), pp. 361–77. Central Statistical Office, Budapest.

631 Industry Studies: Manufacturing

Agarwal, J. P.—Productivity of Foreign and Domestic Firms in Indian Industries

In this paper the capital and total productivities of foreign and domestic firms in India are compared on the basis of 1969 data for the organized manufacturing sector classified at three-digit level of the classification of Indian industries. The comparison is carried out at first for each industry and then for the manufacturing sector as a whole on the basis of weighted averages and Wilcoxon matched-pairs signed-ranks tests. The foreign firms are found to be more productive than domestic firms in respect to both of the measures of productivity used. *Weltwirtsch. Arch.*, 1979, *115*(1), pp. 116–27. *Institut für Weltwirtschaft,* Kiel, West Germany.

Wills, J.—Technical Change in the U.S. Primary Metals Industry

A dual cost function embodying biased technical change is estimated for the postwar primary metals industry. The identifying restriction of constant rates of factor augmentation is used to derive significant estimates of rates of biased technical change that are consistent with the induced innovation hypothesis. Also, the bias in elasticity estimates that results from ignoring biased technical change is shown to be serious. *J. Econometrics,* April 1979, *10*(1), pp. 85–98. Battelle Human Affairs Research Centers, Seattle.

632 Industry Studies: Extractive Industries

Hwang, M.—A Model of Spatial Price Discrimination for the Pricing Schedule of Coal

This paper seeks to modify and refine the price discrimination models of Olson and Greenhut, Hwang, and Ohta towards the end of estimating empirically present-day price patterns of coal in the United States. The empirical results support the hypothesis that spatial price discrimination characterizes the coal industry. We propose that distant buyers are favored by the pricing practices of sellers in the coal industry and that heterogeneity of products and greater elasticity of demand among distant buyers promote this type of price discrimination notwithstanding statutes designed to encourage use of f.o.b. schedules. *J. Reg. Sci.*, May 1979, *19*(2), pp. 231–43. West Virginia University, Morgantown.

634 Industry Studies: Construction

Bingham, B. J.—Labor Requirements for College-Housing Construction

College housing construction for each $1,000 of contract cost in 1971–72 required 48.3 employee-hours of onsite labor and 8.6 employee-hours of offsite labor. These findings are based on a Bureau of Labor Statistics survey of a 37-project sample of college housing completed in 1973. Data presented indicate trends in labor requirements and are useful in analyzing changes in these factors over periods of time; serve as benchmarks for developing current estimates of employment generating effects of construction expenditures; and are also used to estimate the 1978 level of employee-hour requirements and the number of jobs generated per billion dollars of expenditure. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 28–34. Bureau of Labor Statistics, Washington, D.C.

Edmonds, G. A.—The Construction Industry in Developing Countries

The construction industry, besides being a major employer of labor, provides the physical infrastructure essential for economic growth and prosperity. In the developed countries its importance to the economy is generally recognized and action, both governmental and private, is taken to ensure its economic and technical viability. In the developing countries, however, such concern for the industry and its growth is all too rare. Typically the domestic sector of the industry is in its infancy, is incapable of meeting the demands made upon it, and is handicapped by many of the procedures in force. Yet its growth could be encouraged by the application of appropriate measures. *Int. Lab. Rev.*, May-June 1979, *118*(3), pp. 355–69. International Labour Office, Geneva.

Olsen, J. G.—Labor and Material Requirements for New School Construction

Periodic surveys of labor and material requirements for various types of construction are conducted by the Bureau. The survey on which this article is based consists of a probability sample of 68 school construction projects completed in 1972. In addition to collecting data on the number of employee-hours per $1,000 of contract cost, the survey was de-

signed to collect information on materials, costs, and characteristics of the sample projects. This article summarizes major survey findings and compares them with the 1959 and 1965 school construction survey findings. Estimates of the employment requirements for school construction during 1977 are also included. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 38–41. Bureau of Labor Statistics, Washington, D.C.

635 Industry Studies: Services and Related Industries

Chang, L. and Fairley, W. B.—Pricing Automobile Insurance under Multivariate Classification of Risks: Additive versus Multiplicative

For most auto insurance coverages, insureds are cross-classified by at least two variables: driver class and territory. Traditional classification rate-making has employed a multiplicative technique equivalent to the assumption of a completely interactive model. In this paper, the traditional method and the closely associated log-linear model are found, for recent Massachusetts experience, to lead to biased pricing for drivers in high-rate class-territory combinations. An additive model eliminates this bias and has slightly superior overall accuracy. Constraints are selected so that model parameters describe natural actuarial quantities. The different effects of dependency in exposure distributions and interaction between variables are brought into focus. *J. Risk Ins.*, March 1979, *46*(1), pp. 75–98. State Rating Bureau of the Division of Insurance, Commonwealth of Massachusetts, Boston; King's Arrow Associates, Inc., Cambridge, Massachusetts, and State Rating Bureau of the Division of Insurance, Boston.

Ippolito, R. A.—The Effects of Price Regulation in the Automobile Insurance Industry

In this paper, the effects of state insurance price regulation are evaluated. No evidence is uncovered that would suggest that regulators act as if they intended producers to be the primary beneficiaries of their actions. But the findings nevertheless suggest that regulators cause systematic market distortions. In particular, regulation is found to affect relative prices paid by various consumers, relative price/output levels of various firms and short-term levels of average price. *J. Law Econ.*, April 1979, *22*(1), pp. 55–89. Civil Aeronautics Board, Washington, D.C.

Joskow, P. L. and Rozanski, G. A.—The Effects of Learning by Doing on Nuclear Plant Operating Reliability

This paper relates nuclear power plant annual capacity factors to the amount of experience that designers and builders have had in the construction of nuclear plants, and to the amount of experience that plant operators have had with a given plant. An econometric model is estimated on a sample of 72 commercial reactors operating in the United States and abroad. Capacity factors are estimated as a function of plant size, date of commencement of commercial operation, and cumulative lifetime output divided by gross capacity. Hypotheses concerning the constancy of the learning process across plants of different type and vintage are formulated and tested. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 161–68. Massachusetts Institute of Technology; Harvard University.

Pritchett, S. T. and Brewster, B. Y., Jr.—Comparison of Ordinary Life Operating Expense Ratios for Agency and Nonagency Insurers

This study compares actual to standard expense ratios for 74 life insurers that sell through agents paid by commissions with expense ratios for nine life insurers that market their products without commissioned agents. All of the insurers are licensed in New York. The study is confined to the ordinary line of business. The major limitation of the study is the small size of the nonagency sample. Expense ratios for the two groups have means and ranges that are nearly identical. No evidence suggests that insurers without agents operate more efficiently than do those with agents. *J. Risk Ins.*, March 1979, *46*(1), pp. 61–74. University of South Carolina; New York State Association of Life Underwriters.

Skipper, H., Jr.—The Privacy Implications of Insurers' Information Practices

Insurers and their support organizations are among the largest collectors and users of per-

sonally identifiable information in the United States, yet little attention has been focused historically on the implications of insurers' information practices to individuals' privacy. Moreover, these practices are virtually opaque from the subject individual's point of view—in other words, individuals do not realize the full implications to their privacy when they enter into relationships with insurers. Thus, individuals may be at the disadvantage from a privacy protection standpoint in dealing with insurers. This paper analyzes insurers' information practices from a privacy protection perspective and suggests several areas that need improvement. *J. Risk Ins.*, March 1979, *46*(1), pp. 9–32. Georgia State University, Atlanta.

Witt, R. C.—An Economic Appraisal of Territorial Pricing Issues in Automobile Insurance

Some basic economic and statistical issues in the automobile insurance territorial rating controversy are examined. Insurers attempt to equilize underwriting profit ratios among territories. However, perfect actuarial rate equity usually is not achieved *ex post*. Underwriting risk also is not adequately recognized. Provision for underwriting profit (risk) usually is related to average loss costs in a territory rather than to variability in loss costs. The assumption that all expenses are variable and proportional to the average territorial rate does not appear justified. These factors probably account for the inverse relationship between underwriting risk and return for automobile insurance in Illinois. *J. Risk Ins.*, March 1979, *46*(1), pp. 33–60. University of Texas at Austin.

640 Economic Capacity

641 Economic Capacity

de Leeuw, F.—Why Capacity Utilization Estimates Differ

This study investigates three possible reasons why survey-based measures of capacity utilization, for which respondents determine how to compare output with capacity, show less fluctuation than production-based measures, which use output statistics divided by some smoothly growing estimate of capacity. The first, changing assumptions on the part of respondents about the number of shifts per day or days per week used to define capacity, is found not to be important. The second, overreporting of "no change," and the third, use by respondents of labor input instead of output to measure utilization (with consequent bias due to short-term movements in productivity), are important. The study reports on some experimental adjustments to the Bureau of Economic Analysis measure, which is survey-based, for the second and third factors. *Surv. Curr. Bus.*, May 1979, *59*(5), pp. 45–56. Bureau of Economic Analysis, U.S. Department of Commerce.

700 Agriculture; Natural Resources

710 Agriculture

711 Agricultural Supply and Demand Analysis

Just, R. E. and Pope, R. D.—Production Function Estimation and Related Risk Considerations

There has been considerable interest in estimations of input effects on the probability distribution of output. Most empirical and theoretical analyses utilize multiplicative stochastic specifications, which are analyzed and found unduly restrictive, particularly since inputs that marginally reduce risk are not allowed. A more general stochastic specification is proposed, free of these *a priori* restrictions. The proposed functional form estimation is discussed and demonstrated with nitrogen-response data and common log-linear production functions. Though nitrogen is risk-increasing, the marginal variance contribution is smaller when compared to estimates based upon multiplicative specification. Finally, stochastic specification error effects are analyzed. *Amer. J. Agr. Econ.*, *61*(2), May 1979, pp. 276–84. University of California, Berkeley.

713 Agricultural Policy, Domestic and International

Boehlje, M. and Griffin, S.—Financial Impacts of Government Support Price Programs

Recent proposals to index government support prices based on the cost of production will have significant differential impacts on farms with different size and financial characteristics. Simulation analyses indicate that since such proposals result in both increased

income and decreased risk and thus capitalization rates, land values could increase dramatically with the larger, high-equity operator best able to pay the higher price for additional land. Furthermore, the guaranteed cash flow from such a program enables the higher equity firm to grow more rapidly in terms of net worth and land ownership as well as exhibit higher levels of family living compared to smaller, highly leveraged firms. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 285–96. Iowa State University, Ames.

Dobson, W. D. and Salathe, L. E.—The Effects of Federal Milk Orders on the Economic Performance of U.S. Milk Markets

Class I price differentials maintained by the U.S. Department of Agriculture (USDA) and producers during 1965–75 generated Grade A milk supplies in excess of fluid needs and reserves for the federal order system. As required by specified norms, USDA has adopted federal milk order provisions that reduce pronounced seasonality of milk production and lessen certain types of erratic and extreme price variation. If federal milk orders were eliminated and cooperatives and state agencies were barred from replacing the orders, then fluid milk markets characterized by lower Class I differentials, greater milk price variability, and smaller Grade A milk surpluses might emerge. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 213–27. University of Wisconsin, Madison.

715 Agricultural Marketing and Agribusiness

Furtan, W. H.; Nagy, J. G. and Storey, G. G.—The Impact on the Canadian Rapeseed Industry from Changes in Transport and Tariff Rates

The economic viability and potential development of the Canadian rapeseed processing industry has been affected by a statute that allows raw rapeseed to be placed in export position at a rate two and one-half to three times lower than the processed oil and meal products and by a high Japanese rapeseed oil tariff. An analysis was undertaken to evaluate the effects on prices and trade flows of rapeseed, rapeseed oil, and rapeseed meal from policy changes in the Japanese rapeseed oil tariff and in Canadian freight rate policies. A four-region, three-commodity, spatial-equilibrium, quadratic-programming model of the world rapeseed industry was constructed to measure the impact of the various policy changes. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 238–48. University of Saskatchewan, Saskatoon.

McCalla, A. F. and Schmitz, A.—Grain Marketing Systems: The Case of the United States versus Canada

This paper compares the U.S. and Canadian grain-marketing systems, emphasizing wheat. The historical evolution of each system is first presented; then each system's performance is evaluated using such criteria as producer prices and export market shares. The particular marketing system by itself is not the only determinant of performance differences of the two systems; government policies also play a role. Furthermore, the two marketing systems do not operate independently of each other. Often the Canadian Wheat Board uses the private system in the United States to carry out the delivery of grain once sales have been made; also, at times, the Board has made direct sales to U.S. grain firms. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 199–212. University of California, Berkeley.

716 Farm Management

Reichelderfer, K. H. and Bender, F. E.—Application of a Simulative Approach to Evaluating Alternative Methods for the Control of Agricultural Pests

A microanalysis simulation model of the interrelationships among Mexican bean beetle pest populations, populations of wasps that are parasites of the pest, chemical control inputs, and soybean yield is presented. Points from output response surfaces obtained through simulations of alternative biological and chemical pest control strategies are utilized in conjunction with cost data to construct benefit-cost ratios for each intraseasonal control option study. Comparison of ratios indicates that biological control of the pest is, by benefit-cost criteria and from both private and social perspectives, a competitive alternative to chemical control. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 258–67. Economics, Statistics, and

Cooperatives Service, U.S. Department of Agriculture.

Truran, J. A. and Fox, R. W.—Resource Productivity of Landowners and Sharecroppers in the Cariri Region of Ceará, Brazil

Knowledge of resource productivity for different classes of tenancy is important for formulating land reform policy. Various productivity measures based on survey data are presented for landowners and sharecroppers from one county in Northeast Brazil. Intensity of factor use by sharecroppers and owners with similar size plots is compared to test the Marshallian hypothesis concerning sharecropper behavior. The results show relatively high average and marginal value products of land for sharecroppers, suggesting that landowners could realize considerable gains by expanding the area under sharetenancy. Socioeconomic reasons why this has not occurred and the relationship between productivity and capital are explored. *Land Econ.*, Feb. 1979, *55*(1), pp. 93–107. University of Arizona, Tucson.

Wu, C. C.—Price-Output Uncertainty and Allocative Efficiency: An Empirical Study of Small-Scale Farms

Allocative efficiency within small-scale family farms of Taiwan is studied in terms of an overall profit efficiency and two component—cost and output—efficiencies. Farm-specific inefficiency indices are estimated using models developed from a Cobb-Douglas production function and then explained by price-output uncertainty and education of farm operator. Major findings include (1) the farms are in general much more cost-efficient than output-efficient with profit inefficiency stemming largely from output inefficiency; (2) price-output uncertainty causes cost as well as output inefficiency; and (3) education contributes to output efficiency but not to cost efficiency. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 228–33. University of Alabama, Huntsville.

717 Land Reform and Land Use

Livingstone, I. and Hazlewood, A.—The Analysis of Risk in Irrigation Projects in Developing Countries

This article deals with an issue that arises in the planning of irrigation schemes in developing countries: the volume of water a scheme should be designed to utilize when the volume of water available varies widely from year to year. *Oxford Bull. Econ. Statist.*, Feb. 1979, *41*(1), pp. 21–35. University of East Anglia; Institute of Economics and Statistics, University of Oxford.

Salmanzadeh, C. and Jones, G. E.—An Approach to the Micro Analysis of the Land Reform Program in Southwestern Iran

Iran's recent Land Reform Program has been well documented from legislative and political viewpoints and at a macro level. However, available data do not allow detailed micro analyses. This article introduces a new approach to analyzing the program's application. Based on data from field studies in 169 villages in rural Dezful, it analyzes the changing agrarian structures during the 1960's and corrects misconceptions arising from general data. It also indicates that Land Reform initiated socioeconomic changes in villages, but that a number of supporting services are required to assist peasants to benefit from the new situation. *Land Econ.*, Feb. 1979, *55*(1), pp. 108–27. Jundi Shapur University, Ahwaz, Iran.

720 Natural Resources

721 Natural Resources

Gilbert, R. J.—Optimal Depletion of an Uncertain Stock

The theory of optimal depletion of an exhaustible resource is extended to include imperfect information on the stock. A novel solution technique of a control problem embedded in an iterative dynamic program is developed. *Ceteris paribus*, uncertainty reduces the optimal rate of utilization of the resource. It is shown that if the resource is an essential input to the economy, the net social value of exploration is always positive prior to the exhaustion of known reserves. In a decentralized economy, a similar statement applies to the net private value of exploration; however, the amount and timing of exploration may be inefficient. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 47–57. University of California, Berkeley.

Lee, D. R.—Price Controls On Non-Renewable Resources: An Intertemporal Analysis

The impact of a price control on the supply pattern of a competitively supplied nonrenewable resource is analyzed. It is established that legally reducing price below the uncontrolled levels will always increase current supply and reduce the exhaustion horizon when marginal extraction costs are constant. In the case of increasing marginal extraction cost, a price ceiling greater than or equal to the initial uncontrolled price will always increase current supply, while a lower price ceiling can either increase, decrease, or have no effect on current supply. The effect on the exhaustion horizon will generally be indeterminate. *Southern Econ. J.*, July 1979, *46*(1), pp. 179–88. Virginia Polytechnic Institute and State University, Blacksburg.

YoungDay, D. J. and Fight, R. D.—Natural Resource Policy: The Distributional Impact on Consumers of Changing Output Prices

An input-output methodology is developed to examine the impact of natural resource policy on output prices and the real distribution of (given) nominal incomes. Analytical results demonstrates that price changes for all outputs may be inferred from observation (or an estimate) of a single price change. A measure of welfare change is constructed for individual households, yielding the distributional impact of price changes. An application to forest products suggests that policies resulting in higher consumer prices are regressive. The methodology appears applicable to other resource sectors. *Land Econ.*, Feb. 1979, *55*(1), pp. 11–27. Montana State University, Bozeman.

722 Conservation and Pollution

Gianessi, L. P.; Peskin, H. M. and Wolff, E.—The Distributional Effects of Uniform Air Pollution Policy in the United States

Although the Clean Air Act encourages uniform air pollution laws nationally, the analysis described in this article suggests that the Act's benefits and costs are unlikely to be uniformly distributed. The analysis simulates the benefit and cost burden on each family in the 1970 U.S. Census Public Use File of a fully-implemented Act, assuming full forward-shifting of control costs and using an indexing procedure to prorate national benefit estimates regionally. While the cost burdens appear to be regressive, lower income families living in urban areas tend to receive benefits in excess of costs. However, for most families costs exceed benefits. *Quart. J. Econ.*, May 1979, *93*(2), pp. 281–301. Resources for the Future, Washington, D.C.; New York University.

Seitz, W. D.; Taylor, C. R.; Spitze, R. G. F.; Osteen, C. and Nelson, M. C.—Economic Impacts of Soil Erosion Control

The economic impacts of soil erosion control at the corn-belt, state, substate region, and watershed levels of aggregation are presented. Policy options considered include regulatory as well as voluntary cost-sharing arrangements. A market equilibrium linear programming analysis is used to determine the price, production, and social cost impacts of several corn belt soil erosion control policies. A modification of this model is used to ascertain the differential impacts if only some states adopt soil loss control policies and to determine variable impacts among regions with different soil characteristics. A second linear programming model is used to consider the long-term implications of soil erosion control policies. *Land Econ.*, Feb. 1979, *55*(1), pp. 28–42. University of Illinois, Urbana-Champaign.

Tomann, H.—Gesamtwirtschaftliche Wirkungen der Umweltpolitik (Economic Impact of Pollution Control Policies)

The effects of alternative strategies for pollution control on macroeconomic objectives are analyzed. The polluter-pays principle appears preferable to that of financing through the public household, but only under several conditions: in the short run, the behavior of trade-unions and monetary policy largely determine the extent to which the risk of unemployment and inflation can be reduced. In the long run the crucial points are whether a possible decrease in the tax burden will be used for distributional purposes, and whether the potential welfare gains on the international level will be realized through international coordination. *Konjunkturpolitik*, 1979, *25*(1), pp. 47–72 (German). University of the Saar, Saarbrücken, West Germany.

723 Energy

Pindyck, R. S.—Interfuel Substitution and the Industrial Demand for Energy: An International Comparison

Pooled international data are used to estimate a two-stage model of industrial energy demand, in which a non-homothetic translog cost function determines the expenditure shares for capital, labor, and energy, and a homothetic translog cost function determines the expenditure shares for individual fuels. Energy and capital are found to be net substitutes rather than complements, and price elasticities, both for aggregate energy use and for individual fuels, are found to be larger than estimates obtained in earlier studies would indicate. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 169–79. Sloan School of Management, Massachusetts Institute of Technology.

800 Manpower; Labor; Population

810 Manpower Training and Allocation; Labor Force and Supply

811 Manpower Training and Development

Baumer, D. C.; Van Horn, C. E. and Marvel, M.—Explaining Benefit Distribution in CETA Programs

This article describes and analyzes the distribution of benefits to individuals from Comprehensive Employment and Training Act of 1973 (CETA) programs, using data from a three-year study of CETA in 32 research sites. The data show that the poor and women receive increasingly fewer benefits from CETA. Nonwhites experience higher enrollment under CETA then under noncategorical programs. The poor, women, and nonwhites obtain fewer benefits from public service employment programs than from training and work experience programs. Economic conditions provide only a partial explanation of service patterns. Program design choices, administrator attitudes, and national policy and actions are also important. Some changes are recommended in methods of analyzing the need for employment and training programs. *J. Human Res.*, Spring 1979, *14*(2), pp. 171–96. Smith College; Rutgers University, New Brunswick, New Jersey; Ohio State University, Columbus.

813 Labor Force

Cooney, R. S.—Intercity Variations in Puerto Rican Female Participation

Of the eight major ethnic/racial groups in the United States, female labor force participation has declined between 1950 and 1970 for only one—the Puerto Rican group. We begin by analyzing the broad question of why Puerto Rican female participation has declined by trying to explain why the Puerto Rican female participation increased in Chicago (+6.1) and yet decreased in New York City (−10.0) between 1960 and 1970. In order to explain this differential change, we examine labor market conditions, socioeconomic characteristics of the Puerto Rican female labor supply, and assimilation factors. This analysis, based on 1970 Census data for cities, clearly shows the importance of labor market conditions. *J. Human Res.*, Spring 1979, *14*(2), pp. 222–35. Fordham University, Bronx.

Freebairn, J. W. and Withers, G. A.—Welfare Effects of Salary Forecast Error in Professional Labour Markets

Since the attainment of professional qualifications involves long training periods, realized salaries can differ substantially from those anticipated when decisions to undertake training were made. Salary forecast errors result in welfare losses to the suppliers and buyers of skilled professional labor relative to welfare levels achievable in a state of more accurate forecasts. A recursive model of professional labor markets and economic surplus techniques are developed to provide quantitative measures of the welfare losses of forecast errors. Application of the model to U.S. postwar law and engineering markets estimate aggregate losses of 2.0 to 2.5 percent of the salary with the greater portion falling on graduates. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 234–41. La Trobe University, Victoria, Australia; Australian National University, Canberra.

Ryscavage, P. M.—BLS Labor Force Projections: A Review of Methods and Results

Since 1950, the Bureau of the Census and the Bureau of Labor Statistics have made numerous projections of the size and growth of the labor force. This paper examines the accu-

racy of those projections and concludes that the projections have underestimated the growth in the Nation's labor force. Underestimates of the size of the female labor force have exceeded the overestimates of the size of the male labor force. Suggestions are offered as to why many of the past projections have been below actual labor force levels. The paper ends with a discussion of some other projecting methods that the Bureau is considering. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 15–22. Bureau of Labor Statistics, Washington, D.C.

Zabalza, A.—The Determinants of Teacher Supply

The model of occupational choice developed in this paper suggests that the measurements of lifetime earnings by a single variable (either starting or average salaries) may lead to a misspecification of labor supply functions and that a better formulation would include both starting salaries and the rate at which earnings increase over time. It also indicates that employment opportunities may be relevant in determining occupational choices. The empirical evidence on teacher supply largely corroborates the hypothesis. A particularly interesting finding is that, while men are quite responsive to career prospects, women place much more weight on immediate earnings. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 131–47. London School of Economics.

820 Labor Markets; Public Policy

821 Theory of Labor Markets and Leisure

Bardhan, P. K.—Wages and Unemployment in a Poor Agrarian Economy: A Theoretical and Empirical Analysis

In much of the theoretical literature on development the standard assumption is that of a constant wage in agriculture. In this paper we cite some evidence, obtained in our detailed analysis of a recent large-scale survey of rural labor households by the National Sample Survey in India, of how the existing theories of wage determination by biological or institutional factors leave much to be explained in terms of the observed data. We then proceed to construct a modified theoretical framework, which generates comparative static hypotheses that seem to be consistent with many of the stylized facts. *J. Polit. Econ.*, June 1979, *87*(3), pp. 479–500. University of California, Berkeley.

Blattner, N.—Hindernisse auf dem Weg zur Vollbeschäftigung (Obstructions in the Road to Full Employment)

There is widespread uncertainty as to how the problem of unemployment can be resolved. The controversies are complicated by a constant mixing-up of professional dispute with political beliefs. This is made all the easier as the structure of economic knowledge appears to be weak. The lacunae in professional knowledge dealt with are those connected with the general equilibrium theories of unemployment, the new microeconomics' understanding of unemployment, and with technological change and unemployment. It is finally stressed how important new rules of the game are if the decision-making process in our modern societies ought to be albe to cope with actual and coming unemployment. *Kyklos*, 1979, *32*(1/2), pp. 61–79 (German). University of Basle, Switzerland.

Burkhauser, R. V.—The Pension Acceptance Decision of Older Workers

This study focuses on factors related to an older worker's decision to accept a pension and on how this influences subsequent market work. A life-cycle model is used, which emphasizes the asset nature of the pension decision and in particular includes changes in potential earnings streams due to the work restrictions imposed by a pension. The empirical results show that the timing of acceptance of a pension depends upon the actuarial value of the plan at different ages, not on payments in any one year. While health affects the pension decision, voluntary economic decision variables play a major role in the timing of pension acceptance for both the healthy and those in ill health. *J. Human Res.*, Winter 1979, *14*(1), pp. 63–75. University of Wisconsin, Madison.

Canterbery, E. R.—A Vita Theory of the Personal Income Distribution

The vita theory provides a general framework for otherwise diffuse empirical findings

in which personal income differentials are attributed to education, experience, training, dual labor markets, as well as to differences in race, sex, class, and region. A person "qualifies" for a particular national or local labor market by the state of his or her career autobiography at the time. Since labor demand is related to product prices and a changing technology, however, only the rare individual can predict with any accuracy the demand for workers with vita of his or her type. Moreover, the individual's personal income exhibits differentials from potential labor market earnings whose causes often are traceable to the first vita stage, the *birth* vita. Statistical path analysis—recommended because of the importance of both direct and indirect impacts of the variables deciding personal incomes—lends empirical support to the vita theory. *Southern Econ. J.*, July 1979, *46*(1), pp. 12–48. Florida State University, Tallahassee.

Gerfin, H.—Arbeitslosigkeitstypen und Einkommensverteilung in der "Neuen Makroökonomischen Theorie" (Types of Unemployment and Income Distribution in the "New Macroeconomics")

The theory of temporary general equilibria with quantity rationing, though providing significant progress in our understanding of alternative ways of origin of involuntary unemployment, faces stiff opposition within as well as outside the profession. This opposition, whatever its motivation, draws support from a crucial deficiency in the new theory as it stands by now: it implies counterfactual predictions regarding distributional effects in the case of "Keynesian" unemployment. It is shown that this deficiency does not stem from the assumption of rigid prices and wages but is due to the unrealistic, so far not disputed, assumption of timeless quantity adjustments especially in the labor market. Any unemployment has the empirical features of the "classical" type as long as the dynamics of quantity adjustments are not taken into account. *Kyklos*, 1979, *32* (1/2), pp. 80–91 (German). University of Kostanz, West Germany.

Holden, K. and Peel, D. A.—The Augmented Phillips Curve: Results for Italy, Japan and the U.K.

This paper presents empirical evidence on the determinants of quarterly wage changes in Italy, Japan and the United Kingdom. For these countries the unemployment rate is an imperfect proxy for the excess demand for or supply of labor and so the direct determinants are used in the wage equation. Price expectations are modelled both by extrapolation of past inflation and rationally. The results provide strong support for the augmented Phillips curve and are consistent with an absence of money illusion. For Italy, extrapolative expectations are superior to rational but the reverse is true for Japan and the United Kingdom. *Econ. Stud. Quart.*, April 1979, *30*(1) pp. 30–36. University of Liverpool, Merseyside, United Kingdom.

Kalachek, E. D.; Raines, F. Q., and Larson, D.—The Determination of Labor Supply: A Dynamic Model

This paper specifies a model of labor supply change to test the sensitivity of static results and estimate the speed of labor supply response to discrepancies between actual and desired hours of work. Employing data from the 1966, 1969, and 1973 waves of the National Longitudinal Survey of mature men, the authors find that workers respond rapidly to changes in desired labor supply, fully adjusting actual hours within a two-year interval, but that pre-existing labor supply disequilibrium is liquidated more slowly. The authors infer that institutional constraints on hours are of limited importance, but those imposed by area- or industry-specific demand fluctuations are of more importance. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 367–77. Washington University, St. Louis.

Krelle, W.—The Way Out of Unemployment: Change of Group Behaviour

The article demonstrates that the main reasons for the current difficulties of simultaneous unemployment and inflation is a wage behavior of the trade unions, a price behavior of the firms, and a demand behavior of consumers, investors, and the government, which is inconsistent with full employment. The simple Keynesian model has been extended to allow for a wage and price mechanism. Its short-term

solution showed the impasse of economic policy: editional demand would yield higher production employment but would simultaneously raise the rate of inflation to an intolerable degree. By an inappropriate wage-price mechanism, unemployment may stay a permanent problem. The way out of the difficulties consists of changing the wage-price mechanism such that the government could go on with additional demand without fear of inflation. *Kyklos*, 1979, *32*(1/2), pp. 92–128. University of Bonn.

Markusen, J. R.—Personal and Job Characteristics as Determinants of Employee-Firm Contract Structure

This paper attempts to explain the existence of a hierarchy of employee-firm contracts often found within individual firms. In particular, it attempts to explain how contract structure is related to personal and job characteristics. The relevant factors examined include risk bearing, asymmetrical information, unemployment compensation, labor–leisure preferences, seniority, and the game theoretic aspects of certain types of contracts. *Quart. J. Econ.*, May 1979, *93*(2), pp. 255–79. University of Western Ontario, London, Canada.

Polemarchakis, H. M.—Implicit Contracts and Employment Theory

In a general equilibrium model with state-dependent preferences and incomplete markets in contingent commodities, the author characterizes employment contracts that arise as Nash Equilibria in firm behavior. It is demonstrated that there exists a continuum of Nash Equilibria indexed by the level of aggregate employment. Consequently, full employment can neither be guaranteed nor excluded. Optimally behaving firms are shown to always employ fully their labor pools and, under the assumptions that the marginal utility of income for consumer-workers is independent of prices and the state of nature, to offer wages independent of the contingency realized. In a situation where contracts are negotiated nor prior but concurrently with economic activity, an example is constructed where no Nash Equilibrium is characterized by full-employment. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 97–108. Columbia University.

Smith, R. S.—Compensating Wage Differentials and Public Policy: A Review

This paper reviews the theory of compensating wage differentials associated with disagreeable job characteristics and the empirical tests that have been made of that theory. The review of the theory is confined to graphical analysis, and it is intended to make the major implications of hedonic price theory available to a wide audience. Data sources and theoretical underpinnings are stressed in the empirical review section, where it is concluded that only for the risk of death on the job are the findings consistently supportive of the theory. The policy implications of that conclusion are then discussed. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 339–52. Cornell University.

Veendorp, E. C. H.—Robinson Crusoe, Friday, and the Competitive Price Mechanism: Some Implications of the Heterogeneity of Successive Labor Units

Typically the labor services of an individual can only be offered in a specific sequence, while successive units in this sequence are not necessarily equally efficient. In this paper we analyze some implications of the sequential heterogeneity of labor services for general equilibrium theory. It is shown that competitive pricing of hours will generally lead to a different allocation of human effort than competitive pricing of efficiency units. The choice between these pricing mechanisms may affect the stability and the viability of a competitive equilibrium. *Southern Econ. J.*, July 1979, *46*(1), pp. 1–11. Clark University, Worcester, Massachusetts.

Wales, T. J. and Woodland, A. D.—Labour Supply and Progressive Taxes

Two econometric models of labor supply based upon the hypothesis of utility maximization subject to a budget constraint, which incorporates a progressive income tax schedule, are considered in this paper. In models previously estimated in the literature, the piecewise-linear budget constraint is approximated by a straight line through the individual's observed leisure–consumption point. Hence the observed marginal wage rate is assumed to be the appropriate price of leisure for the individ-

ual's utility maximization decision. This involves a specification error in the stochastic case. An estimation method is developed that takes the complete piecewise-linear budget constraint into account and in so doing avoids this specification error. *Rev. Econ. Stud.*, Jan. 1979, *46*(1), pp. 83–95. University of British Columbia, Vancouver.

822 Public Policy; Role of Government

Ashenfelter, O. and Smith, R. S.—Compliance with the Minimum Wage Law

This paper investigates the extent and patterns of compliance with the federal minimum wage. Using a profit-maximizing model of compliance, predictions about compliance with weak or random government enforcement are made. Such enforcement is not random, however, and our measures of compliance suggest that government enforcement, while not inducing anything near complete compliance, does have an impact. Overall compliance in 1973 is estimated to be about 65 percent, while it is about 10 percentage points lower after the new minimum was established in 1975. Compliance appears highest among regional/racial/sex (but not age) groups where market incentives for violation are strongest. *J. Polit. Econ.*, April 1979, *87*(2), pp. 333–50. Princeton University; New York State School of Industrial and Labor Relations, Ithaca.

Barron, J. M. and Gilley, O. W.—The Effect of Unemployment Insurance on the Search Process

This paper examines the impact of unemployment insurance (UI) on the search process of two groups of unemployed individuals: those currently receiving UI benefits and those who, though not currently eligible for UI benefits, might expect to receive such benefits during future spells of unemployment. Testing a model originally formulated by Dale Mortensen, the data suggest that while differences in the value of UI benefits alter the nature and extent of job search by current recipients, differences in the expected value of future UI benefits appear to have no effect on job search by those not currently receiving such benefits. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 363–66. Purdue University.

Chelius, J. R.—Economic and Demographic Aspects of the Occupational Injury Problem

The purpose of the study was to gain insight into the factors associated with variations in occupational injury rates over time. Evidence indicates that the sustained high level of business activity and the influx of young workers were important factors in the high level of injury rates which occurred in the 1960's. Implications of this finding for the regulatory approach used by OSHA are considered. *Quart. Rev. Econ. Bus.*, Summer 1979, *19*(2), pp. 65–70. Purdue University.

Halpin, T. C.—The Effect of Unemployment Insurance on Seasonal Fluctuations in Employment

This study examines differences among states in seasonal variations in employment within each of three industries to see if those differences are linked to state differences in the strength of experience rating, defined as the extent to which firms balance their unemployment insurance tax payments and expected benefit withdrawals. Rating strength is measured in several ways, such as the ratio of taxable wages to total covered wages in each state. The results of regression analysis indicate that experience rating has been effective in reducing seasonal employment fluctuations in two of the three industries studied. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 353–62. Illinois State University, Normal.

Inoue, K.—Structural Changes and Labour Market Policies in Japan

The structural adjustments that need to be made by all developed economies, in part to make room for imports of manufactures and semi-manufactures from developing countries, should be accompanied by well-defined labor market policies if adverse effects on employment are to be minimized. The various measures that have been applied in Japan since the early 1960's in order to combat structural unemployment suggest the general direction in which future labor market adjustment policies in other industrialized countries might be sought. *Int. Lab. Rev.*, March–April 1979, *118*(2), pp. 223–35. International Labour Office, Geneva.

Smith, R. S.—The Impact of OSHA Inspections on Manufacturing Injury Rates

This paper estimates the effects of OSHA inspections on injury rates at the plant level. The method involves comparing injury rates of plants inspected "early" in a given year with those inspected "late" in the year, after controlling for prior injury rates and other factors. The results suggest that OSHA inspections in 1973 reduced injury rates by about 16 percent, but that 1974 inspections had no statistically significant impact. *J. Human Res.*, Spring 1979, *14*(2), pp. 145–70. Cornell University.

823 Labor Mobility: National and International Migration

Krauss, M. B. and Baumol, W. J.—Guest Workers and Income-Transfer Programs Financed by Host Governments

"Guest workers" temporarily employed abroad are often said to receive transfer benefits from welfare programs in the host country that employs them. However, it is shown that with international mobility of labor, host country wages will be depressed by the influx of guests, so that the wage plus the welfare benefit equals the international wage rate. This also forces total world earnings of host country workers to the world level and frustrates the purpose of the welfare programs. Means to prevent nullification of welfare programs by mobility of guest workers are also discussed. *Kyklos*, 1979, *32*(1/2), pp. 36–46. New York University.

Pashigian, B. P.—Occupational Licensing and the Interstate Mobility of Professionals

This paper attempts to explain why the interstate mobility rate differs so much among professional occupations. The effects of age, education, earnings, location-specific investment in reputation and licensing are investigated. Licensing appears to reduce the interstate migration rate. In the second part of the paper tests are concluded to determine if the comparatively low interstate migration rate of lawyers could be due to investments by lawyers in state-specific law and not to licensing and restrictions on reciprocity. The results suggest that the effects of investments in state-specific law on mobility are small. *J. Law Econ.*, April 1979, *22*(1), pp. 1–25. University of Chicago.

824 Labor Market Studies, Wages, Employment

Balcer, Y. and Sahin, I.—Probabilistic Models for Pension Benefits

First a basic probabilistic model is presented for the computation of the expected value and the distribution of pensionable service under an arbitrary service-age vesting rule. This model is then extended to allow for graded vesting, minimum age for participation, maximum age of eligibility, partial coverage, optional vesting, and portability. Also discussed through further extensions of the basic model are the pension benefits, using different benefit formulas, with or without wage and/or inflation indexing. All the models proposed in the paper are applied to the Canadian labor force using real data; for each, the results are discussed. *J. Risk Ins.*, March 1979, *46*(1), pp. 99–123. University of Wisconsin, Madison; University of Wisconsin, Milwaukee.

Benjamin, D. K. and Kochin, L. A.—Searching for an Explanation of Unemployment in Interwar Britain

From 1921 to 1938 unemployment in Britain averaged 14 percent and never fell below 9.5 percent. Three largely independent sets of evidence indicate that the prolonged high unemployment was due to the operation of an unemployment insurance scheme that paid benefits that were high relative to wages and available subject to few restrictions. We estimate that the insurance system raised the unemployment rate by 5 to 8 percentage points on average and that in the absence of the system unemployment would have been at normal levels through much of the period. Although a few interwar observers saw clearly the effects of unemployment insurance, Keynes and his followers did not. *J. Polit. Econ.*, June 1979, *87*(3), pp. 441–78. University of Washington, Seattle.

Boyer, R.—Wage formation in Historical Perspective: The French Experience

This article aims to show that the simultaneous rise of unemployment and wages since the end of the 1960's, reinforced during the recession of 1974–75, is not the consequence

of a transitory exception to competitive forces, but of a radical change in the social, political, and economic factors determining wage formation. The competitive process characterizing the nineteenth century, and to some extent the interwar period, has been replaced since the Second World War by a quite different one, in which unemployment no longer has a preeminent influence on wage formation. This hypothesis is confirmed by a statistical and econometric study of the French experience over nearly two centuries. In conclusion, the article emphasizes the danger of a return to a more competitive process of wage formation as a solution to the present crisis. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 99–118. *Centre d'études prospectives, d'economie mathématique appliquées à la planification* (CEPEMAP), Paris.

Bruno, S.—The Industrial Reserve Army, Segmentation and the Italian Labour Market

Considering the Italian experience, and contrasting it with that of United States, the article argues that the Marxian concept of the industrial reserve army retains explanatory value, provided that other socio-institutional factors and specific histories of industrial relations are taken into account. If the Marxian mechanism is to work, hegemony of capital should prevail, and the patterns of segmentation in labor markets should be changeable according to the needs of firms. This failed to happen in Italy, due to workers' antagonism and because secondary workers could not compete in the primary market, as usually happens elsewhere. *Cambridge J. Econ.*, June 1979, *3*(2), pp. 131–51. University of Rome.

Corcoran, M. and Duncan, G. J.—Work History, Labor Force Attachment, and Earnings Differences between the Races and Sexes

This article uses a new data set to investigate the extent to which differences in work history, on-the-job training, absenteeism, and self-imposed restrictions on work hours and location account for wage differences between the sexes and races. As expected, white men generally had more education and training and less absenteeism and fewer restrictions than black men and women of both races. Contrary to past studies, the proportionate wage payoff on the qualification measures are virtually identical for the four race/sex subgroups. The average differences in qualifications, however, explained less than one-third, one-half, and three-fifths of the wage gaps between white men and black women, white women, and black men, respectively. *J. Human Res.*, Winter 1979, *14*(1), pp. 3–20. University of Michigan, Ann Arbor.

Dixon, R. J.—Accounting for Variations in the Wage-Share in Australian Manufacturing: 1969–1977

Variations in the aggregate wage-share reflect not only changes in the wage-share in individual industries but also changes in the composition of output. Once the observed movements in the share are adjusted for changes in the composition of industry, it is seen that the "true share" declined significantly over the 1975–77 period. We also detect a tendency for "high wage-share" industries to grow faster than "low wage-share" industries in the two years immediately following a substantial rise in money wage rates. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 192–99. University of Melbourne.

Elliott, R. F. and Shelton, H. C.—A Wage Settlements Index for the United Kingdom, 1950–1975

The article details the construction of an index of wage settlements for the United Kingdom and contrasts this with estimates of the size of settlements derived from the official wage rates index. The latter index is shown to provide an imperfect measure of settlement size, although it is continually employed for this purpose. The new settlements index is offered as the first step toward constructing the appropriate dependent variable for models of wage inflation. *Oxford Bull. Econ. Statist.*, Nov. 1978, *40*(4), pp. 303–19. University of Aberdeen.

Frumkin, R. and Schmitt, D.—Pension Improvements since 1974 Reflect Inflation, New U.S. Law

This article is a study of a select group of 131 private pension plans compiled by the Bu-

reau of Labor Statistics. A comparison of normal retirement benefits, participation requirements, vesting retirement options, and other provisions of pension plans are made for the 1974–78 period. Although many improvements are cited for this period, a comparison of projected pension benefits with the rise in the Consumer Price Index (CPI) shows pension benefits rising at a slower rate than the CPI. The effect of the Employee Retirement Income Security Act of 1974 on pension plans is also discussed, especially regarding vesting and participation requirements. *Mon. Lab. Rev.*, April 1979, *102*(4), pp. 32–37. Bureau of Labor Statistics, Washington, D.C.

Genosko, J.—Die Arbeitslosenquote—ein Konzept mit Mängeln: Dargestellt am Beispiel Ostbayerns (The Rate of Unemployment—An Imperfect Concept: Illustrated by the Example of Eastern Bavaria)

The paper corrects the "official" unemployment rate in two ways: first it attempts to estimate the so-called hidden reserves of selected Bavarian labor markets and consider them in the rate. This is done by using an extended *Rothschild* approach. Second, the total laborforce is used as denominator of the rate, as in OECD-publications. The main conclusions from these corrections are: (a) The (structural) weakness of the regional labor markets becomes clearer. (b) The differences in the regional distribution of unemployment are not so great as reflected by the "official" rate. *Konjunkturpolitik*, 1979, *25*(1), pp. 1–19 (German). University of Regensburg, West Germany.

Gunderson, M.—Earnings Differentials between the Public and Private Sectors

Based on data from the 1971 Canadian Census, separate earnings equations were estimated for public and private sector workers, and the overall average earnings differential was decomposed into two parts: a portion due to different endowments of productivity-related characteristics and a portion due to a pure surplus payment for the same characteristics. The pure surplus or economic rent that public sector workers received relative to their private sector counterparts was $492 or 6.2 percent for males and $383 or 8.6 percent for females. The public sector wage advantage was larger for low-wage workers, illustrating the basic dilemma that policies to curb the advantage may conflict with the desire to raise the wages of low-wage workers and to achieve equal pay for equal work between males and females. *Can. J. Econ.*, May 1979, *12*(2), pp. 228–42. University of Toronto.

Hazledine, T. J.—Constraints Limiting the Demand for Labour in Canadian Manufacturing Industry

The paper attempts to explain quarterly fluctuations in the level of aggregate employment in Canadian manufacturing over the period 1962–75. The results suggest that, of the three commonly cited factors determining short-term fluctuations in employment—demand and the real wage on the product market side and the state of the labor market—only demand (properly measured as the expected proceeds to be realized from current input level decisions) is of any importance. A fourth factor constraining employment levels—the scale and flexibility of the available capital stock—appears to matter, perhaps increasingly so; generating a "natural" rate of employment. *Australian Econ. Pap.*, June 1979, *18*(32), pp. 181–91. Economic Council of Canada, Ottawa.

Jonung, L. and Wadensjö, E.—Wages and Prices in Sweden, 1912–1921: A Retrospective Test

This article examines the behavior of wages and prices in Sweden between 1912 and 1921 on the basis of a retrospective projection of a wage-price model estimated for the years 1922–71. We investigate whether these two periods are similar with regard to their wage and price experience. Substantial differences are found between the 10 years studied here and the next 50 years. The differences are explained by reference to developments related to the Swedish labor market and to Swedish monetary arrangements. *Scand. J. Econ.*, 1979, *81*(1), pp. 60–71. University of Lund, Sweden.

Korns, A.—Cyclical Fluctuations in the Difference between the Payroll and Household Measures of Employment

Economists have long been puzzled by the larger cyclical fluctuations in the Labor Department's payroll employment measure than in its household employment measure. This article traces the difference, first, to cyclical fluctuations in job changing and in multiple jobholding, and second, to census undercount and survey undercoverage, which cause the household survey to underrepresent the groups (men, particularly black men, and workers who are poor) that experience the sharpest cyclical employment declines. Although the article shows that the payroll measure, but not the household measure, covers changes in the number of uncounted migrants (including illegal aliens), it reaches no conclusion regarding the impact of uncounted migration on the differing cyclical behavior of the two measures. *Surv. Curr. Bus.*, May 1979, *59*(5), pp. 14–44. Bureau of Economic Analysis, U.S. Department of Commerce.

McAleese, D. and McDonald D.—Employment Growth and the Development of Linkages in Foreign-Owned and Domestic Manufacturing Enterprises

This paper examines employment and linkages growth in manufacturing enterprises in the Irish economy. Numbers employed in foreign-owned firms grew rapidly during the last two decades in contrast with a decline in employment in domestic enterprises. Notwithstanding their satisfactory employment record, foreign-owned firms have been criticized for having low linkages with the domestic economy. Examination of linkages using regression analysis and intertemporal comparisons shows that: (a) linkages tend to be initially lower in foreign-owned enterprises than in domestic enterprises; (b) backward and forward linkages in foreign-owned firms increase significantly over time; (c) the degree of linkage is negatively related to the proportion of overseas firms' trade conducted with affiliates; and (d) backward linkages in formerly-protected domestic firms are not significantly higher than those in foreign-owned firms. Irish experience suggests that foreign-owned firms become increasingly integrated into the domestic economy with the passage of time. *Oxford Bull. Econ. Statist.*, Nov. 1978, *40*(4), pp. 321–39. Trinity College, Dublin; Massachusetts Institute of Technology.

Moy, J.—Recent Labor Market Trends in Nine Industrial Nations

Of the nine countries for which the Bureau of Labor Statistics prepares unemployment data approximating U.S. concepts, the Canadian rate (8.4 percent in 1978) was the highest and the Swedish rate (2.2 percent) the lowest. The United States recorded the most significant gains in employment and aggregate hours since the international recession of 1974–75. Between 1975 and 1978, the U.S. and Canadian employment growth rates (3.6 and 2.3 percent, respectively) were by far the strongest among the nine nations studied. The article also discusses postrecession trends in employment-population ratios and labor force participation rates, and highlights special new programs to combat unemployment. *Mon. Lab. Rev.*, May 1979, *102*(5), pp. 8–16. Bureau of Labor Statistics, Washington, D.C.

Quinn, J. F.—Wage Differentials among Older Workers in the Public and Private Sectors.

Wages in the public sector are often set on the basis of comparisons with compensation in the private sector. There are reasons to suspect that this approach may result in government pay schedules that exceed those in the private sector. In this paper, with a human capital model of wage determination and a sample of older male workers, we compare wages in federal, state, and local public administration with those in the private sector, after adjusting for differences in personal and geographic characteristics. We find that the wage gaps that do exist cannot be completely explained by human capital and locational variables. Fringe benefits, job stability, and the attractiveness of the job environment also appear to be greater in the public sector. *J. Human Res.*, Winter 1979, *14*(1), pp. 41–62. Boston College, Chestnut Hill.

Robinson, O.—Part-time Employment in the European Community

The number and proportion of part-time workers in the labor markets of the EEC have been rising for two decades. In the light of

the statistical evidence it is argued that the growth and diffusion of part-time employment reflects underlying and permanent changes in the labor force composition of industrial economies. Many of the conventional distinctions between part-time and full-time workers thus become questionable, indicating a need for employment policies, which seek to integrate the part-time and full-time elements of the labor force in the Community countries. *Int. Lab. Rev.*, May–June 1979, *118*(3), pp. 299–314. University of Bath.

825 **Labor Productivity**

Maddison, A.—Long Run Dynamics of Productivity Growth

This article analyzes the development of labor productivity in 16 advanced OECD countries over the period 1870–1977. It explains why growth accelerated in 1950–70 and slowed down in the 1970's. The acceleration in all countries except the United States in 1950–70 is explained as a recoupment of a technical backlog via high rates of capital formation. Improvements in resource allocation, through shifts away from low productivity agriculture and towards greater participation in international trade, were also helpful. In the 1970's, the impact of those exceptional forces waned, and there were new "structural" problems, which handicapped measured productivity growth (higher energy prices and environmental regulation). In addition, cyclical influences adversely affected productivity in the 1970's, but less than might have been expected. The cyclically adverse influences were more inimical to full use of available labor than to productivity. *Banca Naz. Lavoro Quart. Rev.*, March 1979, *31*(128), pp. 3–43. University of Gröningen, The Netherlands.

826 **Labor Markets: Demographic Characteristics**

Levy, F.—The Labor Supply of Female Household Heads, or AFDC Work Incentives Don't Work Too Well

This paper presents an approximate method for estimating the labor supply function of female household heads who may or may not be receiving Aid to Families with Dependent Children (AFDC). Estimation results indicate that any AFDC parameter change that increases a program's breakeven income will reduce expected hours of work in the population. In particular, liberalized work incentives may encourage current recipients to increase labor supply, but these increases will be more than offset by work reductions of former nonrecipients who are not attracted into the program. *J. Human Res.*, Winter 1979, *14*(1), pp. 76–97. The Urban Institute, Washington, D.C.

830 **Trade Unions; Collective Bargaining; Labor-Management Relations**

Borjas, G. J.—Job Satisfaction, Wages, and Unions

This paper provides a systematic empirical analysis of the effect of union membership on job satisfaction and wages, and shows how the interaction between these effects leads to empirically observable relations between unionization and individual quit probabilities. Using the National Longitudinal Survey of Mature Men, several empirical results were obtained. First, union members, on average, report lower levels of job satisfaction. Interestingly, unionization causes greater dissatisfaction at higher tenure levels. These findings are attributed to both the politicization of the unionized labor force and the fact that union members face flatter earnings profiles. The importance of the latter effect is reflected by the empirical fact that unions have a strong negative effect on quit probabilities at low levels of tenure, but the effect diminishes (absolutely) as tenure increases. *J. Human Res.*, Winter 1979, *14*(1), pp. 21–40. University of California, Santa Barbara.

831 **Trade Unions**

Gamm, S.—The Election Base of National Union Executive Boards

This article analyzes the effect of the election base of executive boards on the internal political life of national unions, especially the capacity of such unions to support opposition to incumbent members of the board. Examining the constitutions of nearly all American unions with over 25,000 members in 1975 indicates that the great majority of national unions elect board members on an at-large basis, a system, Gamm argues, that tends to discourage dissent within unions and to prevent effective repre-

sentation of local interests. In contrast, the majority of unions that select board members by regional election include those that have experienced successful "revolts" in recent years. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 295–311. Cornell University.

Kahn, L. M.—Unionism and Relative Wages: Direct and Indirect Effects

This study adds to the recent literature that uses simultaneous equation techniques to test the hypothesis that the causal relationship between unionism and wages runs in both directions. Using industry data, the author estimates both the effect of unions on wages in the short run, controlling for the reverse effect of wages on unionism, and also the effect of unions on wages in the long run, allowing for the changes in production technique and skill mix induced by the short-run wage effect. In contrast to some previous studies using similar techniques, the author concludes that unions have a significant wage effect in both the short and long run. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), 520–32. University of Illinois, Urbana-Champaign.

Leigh, D. E.—Unions and Nonwage Racial Discrimination

This paper departs from earlier studies of racial differences in union impact by concentrating on differences on two nonwage labor market outcomes: the exit propensity of individual workers and their opportunities for occupational upgrading. Using data from the National Longitudinal Survey samples of young and middle-aged men, the author finds that unionism lengthens tenure and reduces quits for blacks and whites alike in both age categories and that opportunities for occupational advancement are the same for both unionized groups. Leigh concludes that union bargaining over nonwage conditions of employment does not negate the positive impact of unions on the ratio of black to white wages. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 439–50. Washington State University, Pullman.

Smith, R. L. and Hopkins, A. H.—Public Employee Attitudes toward Unions

This study investigates the attitudes toward unions of public sector employees in five states. Analyzing responses to questionnaires sent to 2000 state employees, the authors find that as in the private sector, attitudes toward unions are more favorable among employees in large organizations and with work situation dissatisfactions, lower occupational status, negative life experiences, and less involvement with the organization. In contrast to previous studies of private sector employees, however, the authors report that work situation dissatisfactions are most important in predicting attitudes toward unionization only among union members; among non-members, pre-work and life experiences are better predictors. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 484–95. University of Missouri, St. Louis.

832 Collective Bargaining

Brett, J. M. and Goldberg, S. B.—Wildcat Strikes in Bituminous Coal Mining

This study tests several hypotheses about the causes of wildcat strikes in bituminous coal through an examination of questionnaire and related data concerning 293 underground mines and interview data gathered at two high-strike and two low-strike mines. The evidence indicates that high-strike and low-strike mines do not differ significantly in working conditions, the age of their work force, or the quality of life in their surrounding area. Management in low-strike mines is more accessible to workers, however, and the parties in those mines have a problem-solving relationship that, the authors suggest, could be developed in other mines through various devices. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 465–83. Northwestern University.

Gallagher, D. G. and Pegnetter, R.—Impasse Resolution under the Iowa Multistep Procedure

This study examines the first two years of impasse experience under the Iowa Public Employment Relations Act to determine the effectiveness of a three-step procedure that uses mediation, factfinding, and issue-by-issue final-offer arbitration for all classifications of public employees. The authors conclude, in part, that the Iowa procedure compares favorably with other procedures in minimizing the proportion of disputes going to arbitration and that fact-

finding with recommendations prior to arbitration reduces both the tendency to use arbitration and the number of issues taken to arbitration. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 327–38. University of Iowa, Iowa City.

Mabry, B. D.—Bargaining Power and Changes in Fringe Benefits

Arguments are developed that imply that unions have stronger preferences for compensation in the form of fringes than employers. As economic conditions manifested through consumer price changes, unemployment, and hours of work, favor union bargaining power, changes in the fringe-wage ratio should be greater. The study relates movements in the fringe-wage ratio to those economic variables reflecting bargaining power, including also the level of compensation, tax exempt features of fringes, and strikes as a measure of union militancy. A time-series regression for heavily- and lightly-unionized sectors for the 1948–72 period, relating the fringe-wage should ratio to those economic variables, lends support for the hypothesis that as economic conditions, except during periods of inflation, favor relative union bargaining power, the fringe-wage ratio will increase. Accounting for the effects of wage-price controls in an inflationary period, an interindustry regression in manufacturing, using pooled data for 1968, 1970, and 1972, has related changes in the fringe-wage ratio to tax savings from fringes, work hours, work stoppages, degree of unionization, quit rate changes, and changes in the proportion of nonproduction workers. Four of the six variables have signs consistent with the inflationary bargaining power hypothesis. Weakened union bargaining power in the inflationary recession of 1970 and the wage-price controlled recovery of 1972 is consistent with the signs of the remaining two variables. *Rev. Soc. Econ.*, April 1979, *37*(1), pp. 25–36. Bowling Green State University, Ohio

Mayhew, K.—Economists and Strikes

In pure bargaining theory strikes are generally seen as the result of either mistakes or irrationality. Not surprisingly, therefore, many recent econometric studies of strikes resort to *ad-hocery*. It is argued that these studies explain little of the variation of British strike activity over time. An attempt is made to show that cyclical variations in strikes can be explained by mistakes being most likely at the peak of the cycle. Over the period studied, the time trend is a much more important source of strike variability than is the cycle. The paper suggests some possible explanations for this rising trend. *Oxford Bull. Econ. Statist.*, Feb. 1979, *41*(1), pp. 1–19. Institute of Economics and Statistics, University of Oxford.

833 Labor-Management Relations

Davis, C. E. and West, J. P.—Attitudinal Differences among Supervisors in the Public Sector

This study examines attitudes of two types of employees with supervisory titles in the public sector—those with and those without substantial managerial responsibility—toward unions, grievance procedures, job satisfaction, and the use of merit in personnel matters. From questionnaire responses the authors find that attitudinal differences are strongest on issues of working conditions, the adequacy of existing grievance procedures, and the fairness of hiring and promotion policies. They conclude that under mature public sector collective bargaining relationships supervisors with little—but not substantial—managerial responsibility should be allowed to join rank-and-file unions. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 496–505. Ohio State University, Columbus.

Northrup, H. R.; Wilson, J. T. and Rose, K. M.—The Twelve-Hour Shift in the Petroleum and Chemical Industries

This article reports the results of a 1977 field survey of managers in fifty U.S. and Canadian plants that have recently instituted twelve-hour shifts in continuous operation situations in the chemical and petroleum industries. The authors report that in all the plants studied the shift change has significantly improved morale without impairing efficiency, job safety, or workers' health. The drawbacks of this work schedule include the difficulty some older workers have adjusting; the possibility that it might not be feasible in industries in which the work is more arduous; and the general opposition of unions to any lengthening of the

workday. *Ind. Lab. Relat. Rev.*, April 1979, *32*(3), pp. 312–26. University of Pennsylvania.

840—Demographic Economics

841 Demographic Economics

Butz, W. P. and Ward, M. P.—The Emergence of Countercyclical U.S. Fertility

Fertility rates in industrialized countries have long moved procyclically. However, U.S. fertility has recently fallen in economic expansions and risen during contractions. An economic model emphasizing distinctions between male and female earnings in affecting fertility and between families with and without employed wives can reconcile these movements. The model accurately predicts U.S. fertility rates in years after the sample period of estimation. These results suggest that postwar increases in the aggregate demand for labor raised market earnings of young women and led to the twenty-year baby bust. The prospect is for continuing fertility decreases punctuated by countercyclical movements. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 318–28. The Rand Corporation, Santa Monica, California.

Hutchens, R. M.—Welfare, Remarriage, and Marital Search

This paper considers remarriage from the perspective of economic theories of search and marriage. The theoretical analysis leads to empirical tests on the relationship between the level of transfers in the Aid to Families with Dependent Children (AFDC) program and remarriage probabilities. A logit model is estimated and a statistically significant negative relationship established. Increases in AFDC transfers do then contribute to growth in female headship. Theoretical considerations suggest, however, that by extending duration of marital search, such transfers could also contribute to more stable subsequent marriages. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 369–79. New York State School of Industrial and Labor Relations, Ithaca.

850 Human Capital

851 Human Capital

Machlup F.—Stocks and Flows of Knowledge

At any moment of time, there is a stock of knowledge; during any period, a flow of knowledge. They may be recorded knowledge or knowledge in the mind. Estimates of the stock of recorded knowledge have been made by counting physical units, such as titles or volumes of books, journals and other periodicals, articles, *etc.*, mostly with specious "findings." No estimates exist of stocks of knowledge in human minds, but we have theories about private stocks of subjective knowledge, objectivation of intersubjective knowledge, and thus a "stock of social knowledge." The flow of knowledge from person to person, directly or via some record, differs from flows of goods, securities, or money in that the recipient may gain without the transmitter giving up any knowledge. Flows of certain kinds of knowledge can be measured or estimated in physical terms, but there is a way of measuring all such flows in terms of money by adding the costs incurred in the process. *Kyklos*, 1979, *32*(1/2), pp. 400–411. Princeton University.

Olson, L.; White, H. and Shefrin, H. M.—Optimal Investment in Schooling when Incomes are Risky

This study demonstrates a tractable method for analyzing schooling investment with risky incomes. Constant relative risk aversion is assumed, and borrowing in a rudimentary capital market is allowed. A linear, variance components model on log (real income) is estimated. Only unexplained variation is treated as a source of risk. Illustrative empirical results indicate that students should take either four years of college or none at all, depending on time preference, loan availability, and degree of risk aversion. Estimated risk-adjusted rates of return to college exceed 10 percent for some parameter values. Risk adjustments for college rates are small but positive. *J. Polit. Econ.*, June, 1979, *87*(3), pp. 522–39. Data Resources, Inc., Lexington, Massachusetts; University of Rochester, New York.

Winegarden, C. R.—Schooling and Income Distribution: Evidence from International Data

This paper investigates the effects of the level and variance of educational attainment on the size distribution of income. An econometric model of these relationships is pre-

sented and tested, using data for a cross-section of countries. The statistical results clearly support the long-disputed proposition that higher average levels of schooling exert a strong equalizing effect on income distribution. They also show that inequality in educational attainment plays a larger role in generating income disparities than previous studies had revealed. *Economica*, Feb. 1979, *46*(181), pp. 83–87. University of Toledo.

900 Welfare Programs; Consumer Economics; Urban and Regional Economics

910 Welfare, Health, and Education

912 Economics of Education

Link, C. R. and Ratledge, E. C.—Student Perceptions, I.Q. and Achievement

The study analyzes the determinants of reading acheivement for 500 fourth-graders in the Wilmington, Delaware, school district. The data are an improvement over those used by past researchers because of the concurrent availability of student IQ, pretest and posttest reading scores, student perception and motivation information, and individual teacher characteristics matched with their individual students. The main results are (1) a large positive relation between achievement and the student's perception of a positive teacher attitude toward himself, and (2) a somewhat smaller, but nonetheless significant, positive effect of the student's perception of the parents' attitude toward the student's ability to succeed in life. The observed relationships suggest that earlier emphasis on more traditional teacher characteristics such as years of education and experience may have been misplaced. *J. Human Res.*, Winter 1979, *14*(1), pp. 98–111. University of Delaware, Newark.

McGuckin, R. H. and Winkler, D. R.—University Resources in the Production of Education

Prior studies on the role of university resources in the production of educational attainment have incorrectly assumed that courses taken or resources received by the student are exogenously determined. This paper presents a model of production in higher education in which these resources are endogenously determined; students play a role in determining how many resources they receive. The model is estimated using instrumental variables and, in contrast to earlier empirical work, we find a relatively high elasticity between educational attainment and university resources. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 242–48. Antitrust Division, U.S. Department of Justice, Washington, D.C.; University of Southern California, Los Angeles.

913 Economics of Health

Brown, D. M. and Lapan, H. E.—The Supply of Physicians' Services

This paper presents a model of the supply of physicians' services based upon the assumption that physicians are price-taking utility maximizers. Assuming physicians' services are produced using physicians' labor and purchased inputs, the paper shows that the impact of changes in final product or input prices on the supply of physicians' services depends on the physicians' labor-leisure choice and on the degree of substitutability between physicians' labor and purchased inputs. The empirical results presented indicate that the physicians' labor supply curve is backward-bending, but that the supply curve of physicians' services is positively sloped. *Econ. Inquiry*, April 1979, *17*(2), pp. 269–79. Georgetown University; Iowa State University, Ames.

914 Economics of Poverty

Moon, M.—The Incidence of Poverty among the Aged

Recent reported declines in poverty among the aged have been based on current-income measures of economic status. However, this study examines changes in incidence using an expanded measure that includes such nonincome components as in-kind public and private transfers, tax liabilities, and a share of net worth. In addition, several alternative poverty threshold indicators are suggested for use with this improved economic-status measure. These changes make possible alternative estimates of progress against poverty among the aged from 1966 to 1971. *J. Human Res.*, Spring 1979, *14*(2), pp. 211–21. University of Wisconsin, Milwaukee.

Takayama, N.—Poverty, Income Inequality, and Their Measures: Professor Sen's Axiomatic Approach Reconsidered

This paper proposes the Gini coefficient of the censored income distribution truncated from above by the poverty line as an index of poverty. An ordinalist axiomatic approach, which was introduced by Professor Amartya Sen, is used to justify this measure. In comparison with Sen's index, our alternative measure is simpler and more concerned with relative deprivation; it can be regarded as a more natural translation of the Gini coefficient from the measurement of inequality into that of poverty. *Econometrica*, May 1979, *47*(3), pp. 747–59. Musashi University, Tokyo.

915 Social Security

Hu, S. C.—Social Security, the Supply of Labor, and Capital Accumulation

This paper analyzes the long-run effects of the Social Security System in a generalized neoclassical life-cycle growth model, which explicitly allows for an endogenous retirement decision and bequest motive. We consider an economy of which the population grows at a constant rate. Each individual lives for two periods. In the first period, he works full time, earning an income of w and paying a social security tax of T. In the second period, he works a fraction of time and then retires, receiving from the government a pension of z. He is to choose a consumption path, a retirement age, and an amount of bequest so as to maximize his lifetime utility. From these individual decisions and the assumption that the government budget is balanced each period, the aggregate capital and labor supply functions are derived. It is shown that the short-run effects of social security depend primarily on the elasticities of the demand and supply of labor and its long-run effects are influenced as well by the elasticities of savings and bequest. Conditions for the optimal provision of social security are also derived and compared with those determined by a democratic society through the majority voting process. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 274–83. Purdue University.

Kotlikoff, L. J.—Social Security and Equilibrium Capital Intensity

The extent to which the U.S. unfunded Social Security System has reduced aggregate savings and capital accumulation has been the subject of much recent debate. This paper contributes to this debate by investigating the general equilibrium impact of an unfunded social security program on the steady-state capital stock of an idealized life-cycle economy. The analysis considers the possibility that social security has induced early retirement through its earnings test. The chief finding is that an unfunded social security system with a 10 percent payroll tax reduces the steady-state capital stock by about 20 percent in general equilibrium. *Quart. J. Econ.*, May 1979, *93*(2), pp. 233–53. University of California, Los Angeles.

Kotlikoff, L. J.—Testing the Theory of Social Security and Life Cycle Accumulation

The life-cycle theory of savings predicts explicit signs and magnitudes of coefficients for social security variables in a regression explaining private household wealth accumulation. This paper uses micro data to test the macro argument that social security has reduced the aggregate capital stock. While there is evidence that social security tax contributions have reduced private savings of the young, there is no evidence that aggregate saving has been reduced. Large differences in lifetime wealth generated by the Social Security System do not appear to influence savings. *Amer. Econ. Rev.*, June 1969, *69*(3), pp. 396–410. University of California, Los Angeles.

916 Economics of Crime

Mehay, S. L.—Intergovernmental Contracting for Municipal Police Services: An Empirical Analysis

This paper empirically investigates the economic effects of providing police services through the Lakewood Plan, an extensive intergovernmental contract system in Los Angeles County. Numerous advantages of intergovernmental contracting have been hypothesized, including scale economies, preservation of local community control over public goods decisions, and reduction of interjurisdictional service spillovers. The statistical analysis finds that intergovernmental contracting, as practiced in Los Angeles County, does not ap-

pear to notably inprove the delivery of police patrol services. A major defect in the plan is the use of contracts that fail to specify the service output to be provided and performance levels expected of the producer. *Land Econ.*, Feb. 1979, *55*(1), pp. 59–72. San Jose State University, California.

917 Economics of Discrimination

Blau, F. D. and Hendricks, W. E.—Occupational Segregation by Sex: Trends and Prospects

Postwar trends in the degree of occupational segregation are investigated. Segregation is found to have increased slightly between 1950 and 1960 as predominantly female clerical and professional jobs grew in relative size. Changes in occupation mix were neutral in impact during the 1960–70 period, but an inflow of men into female professions and of women into male sales and clerical jobs produced a modest drop in segregation. This decrease fell far short of what could have been achieved by "sex-blind" hiring. On the basis of past trends, little progress in reducing segregation is expected for the 1970–85 period. *J. Human Res.*, Spring 1979, *14*(2), pp. 197–210. University of Illinois, Urbana-Champaign.

Osterman, P.—Sex Discrimination in Professional Employment: A Case Study

This paper analyzes sex discrimination with data on over 700 professional employees in a metropolitan publishing firm. The author finds that the sex differential in earnings within clusters of similar jobs is much greater if marriage and children variables are excluded: men receive a large "payoff" from being married and from having children, but women do not. On analyzing this difference, the author rejects a labor supply explanation and two variants of statistical discrimination, concluding that managers in this firm simply believe that married men "deserve" higher earnings than comparable women. *Ind. Lab. Relat. Rev.*, July 1979, *32*(4), pp. 451–64. Boston University.

Strober, M. H. and Best, L.—The Female/Male Salary Differential in Public Schools: Some Lessons from San Francisco, 1879

This paper develops a theory of sex differences in the earnings of school personnel, with emphasis on the role of labor market segmentation. Several aspects of the theory are then tested using data for the San Francisco school system in 1879. We find that, holding constant human capital variables (experience and education), sex played a significant role in determining the position and type of school of employment among school personnel and that human capital variables were less important than segmentation variables (position and type of school) in explaining the female/male salary differential. *Econ. Inquiry*, April 1979, *17*(2), pp. 218–36. Stanford University.

920 Consumer Economics

921 Consumer Economics; Levels and Standards of Living

Almon, C.—A System of Consumption Functions and Its Estimation for Belgium

This paper develops a number of desirable characteristics for systems of consumer demand functions, including the possibility of complementarity as well as substitution among goods and similarity in the effects of prices on income and non-income determinants of demand. Linear expenditure systems, Rotterdam models, translog functions, and other systems are measured against these desirable characteristics and found seriously wanting. An alternative function, which scores better but not perfectly against the desiderata, is formulated and estimated with Belgian data. The results are encouraging, despite a certain nonconformity on the part of the potato. *Southern Econ. J.*, July 1979, *46*(1), pp. 85–106. University of Maryland, College Park.

Armstrong, A. C. and Odling-Smee, J. C.—The Demand for New Cars I—A Theoretical Model of Replacement Demand

A microeconomic model is developed in which a car owner compares the utility to be derived from keeping his existing car for another year with the cost of doing so. It yields conclusions about the optimal time to sell and the optimal vintage of car to buy instead. Exogenous factors such as income and relative prices affect the consumers' surplus of individual car owners, and hence the optimal time to sell and replacement vintage. Changes in exogenous factors have both short-term impact

and long-term continuing effects on replacement demand. *Oxford Bull Econ. Statist.*, Nov. 1978, *40*(4), pp. 281–302. University of Bristol; London.

Battalio, R. C.; Kagel, J. H.; Winkler, R. C. and Winett, R. A.—Residential Electricity Demand: An Experimental Study

The effects of experimentally induced changes in price and non-price factors of residential electricity use are examined using individual households as a unit of observation. Under conditions where the dominant source of electricity use was for space cooling: (1) upper bound short-run elasticity estimates of demand were −.32 and −.20 for price increases of 50 and 235 percent, respectively; and (2) increased information on energy use patterns in the form of written, government prepared energy conservation pamphlets and weekly feedback on electricity use levels had no positive effects on energy conservation. These results are consistent with a number of other small-scale field experiments in energy demand in different locals under different environmental conditions. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 180–89. Texas A&M University, College Station; *idem;* University of Western Australia, Nedlands; Institute for Behavioral Research, Silver Springs, Maryland.

Blomquist, G. C.—Value of Life Saving: Implications of Consumption Activity

This paper focuses on the typical individual's value of a small change in the probability of his survival. With a simple life-cycle model the value is shown to be implied by consumption activity that affects risk. The premium an individual is willing to pay to reduce risk is estimated using probit analysis of automobile seat belt use. The "value of life" is found to be about $370,000. This estimate is contrasted with the foregone earnings approach by showing that a surplus value above earnings exists, and the elasticity of the value with respect to earnings is less than one. *J. Polit. Econ.*, June 1979, *87*(3), pp. 540–58. Illinois State University, Normal.

Devine, D. G. and Marion, B. W.—The Influence of Consumer Price Information on Retail Pricing and Consumer Behavior

Comparative price information for major Ottawa supermarkets was collected over a 28 week period and published in daily newspapers during a 5 week test period. In response to the information, the dispersion of prices across stores and chains narrowed, the average level of prices of the market dropped, and consumer satisfaction increased relative to the control market. Consumers transferred patronage to the lower priced stores. Consumers indicated a willingness to pay 34¢ per week on average for the price comparison information. Estimated consumer benefits far exceeded the cost of the program. *Amer. J. Agr. Econ.*, May 1979, *61*(2), pp. 228–37. University of Wisconsin, Madison.

Musgrove, P.—Permanent Household Income and Consumption in Urban South America

Permanent income is estimated from observable household characteristics, whose direct and indirect effects on consumption are separated. Errors in this estimation are distinguished from true transitory incomes (uncorrelated with consumption) and their variances are compared. Application to household budget data from three South American countries yields a permanent consumption elasticity of about 0.9, significantly below unity but above the short-run elasticity. Pure transitory variation is small, most income inequality being permanent. About half of permanent income variation is explained. Education is the chief determinant, with substantial age variation among the well-educated; life-cycle stage affects consumption only slightly. *Amer. Econ. Rev.*, June 1979, *69*(3), pp. 355–68. The Brookings Institution, Washington, D.C.

Shiba, T.—The Personal Savings Function of Urban Worker Households in Japan

The savings ratio of urban worker households in Japan kept increasing over the last three decades. A puzzling phenomenon in the 1970's is that the savings ratio increased as inflationary pressure mounted. After demonstrating that conventional savings functions do not explain the urban worker household's savings behavior in the 1970's, the paper proposes a new savings function, which explains the increase in the savings rates in the inflationary

period. A Bayesian test of a parameter shift is used, since the Chow test is not appropriate for our data. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 206–13. University of Pennsylvania.

Temin, P.—The Origin of Compulsory Drug Prescriptions

Before 1938, the only drugs for which prescriptions were needed were certain narcotics specified in the Harrison Anti-Narcotics Act of 1914. This state of affairs ended in 1938 when two different categories of non-narcotic drugs—prescription and over-the-counter—were created. Although there was new legislation in 1938, the class of non-narcotic prescription drugs was created by FDA regulation, not the new law. This paper recounts the story of how a new category of drugs was created in 1938 and written into law in 1951. It argues that the curtailment of a consumer-directed market for drugs was the result of internal FDA processes. *J. Law Econ.*, April 1979, *22*(1), pp. 91–105. Massachusetts Institute of Technology.

930 Urban Economics

931 Urban Economics and Public Policy

Doebele, W. A.; Grimes, O. F., Jr. and Linn, J. F.—Participation of Beneficiaries in Financing Urban Services: Valorization Charges in Bogotá, Colombia

This paper analyzes the financing of street improvements, sewer extensions, and other urban services by valorization charges, a system of taxation by which the cost of these services is allocated to affected properties in proportion to the benefits conferred. The experience of Bogotá, Colombia, illustrates the impacts of this system as a means of facilitating urban public service provision in developing countries at a rate commensurate with metropolitan growth. The study suggests that valorization could constitute an improvement in the capability of many major cities to install infrastructure benefiting families at all income levels, if they are tied to a well-organized training program and effective technical supervision. *Land Econ.*, Feb. 1979, *55*(1), pp. 73–92. Harvard University.

932 Housing Economics

Bender, B. A.—The Determinants of Housing Demolition and Abandonment

This paper modifies the long-run equilibrium model of housing production so as to allow for the existence of non-optimal housing and the removal of housing from the existing stock. The incentives of local (Chicago) statutes regarding the manner of removal (private demolition or abandonment) are also incorporated in the model. Estimation of private demolition rate and abandonment rate regressions across Chicago neighborhoods indicates that the decision to demolish is dependent upon the change in location-specific housing demand, there is a threshold level of this change, and the choice between private demolition and abandonment is sensitive to the economic incentives in the law. *Southern Econ. J.*, July 1979, *46*(1), pp. 131–44. Texas A&M University, College Station.

Cheung, S. N. S.—Rent Control and Housing Reconstruction: The Postwar Experience of Prewar Premises in Hong Kong

Under rent control, some rights transferred from the landlord to the tenant are ambiguous. The right to reconstruct as a rule remains with the landlord; however, the tenant holds the right to possession. When reconstruction would require that the building be vacated who, then, has the exclusive right to the rental income of the reconstructed building? This paper demonstrates that under rent control landlords may either go to the extreme of demolishing sound buildings or, if they are precluded from evicting tenants, may postpone needed reconstruction indefinitely. No rent control has ever reached an economically efficient solution for housing reconstruction. *J. Law Econ.*, April 1979, *22*(1), pp. 27–53. University of Washington, Seattle.

Polinsky, A. M. and Ellwood, D. T.—An Empirical Reconciliation of Micro and Grouped Estimates of the Demand for Housing

This paper seeks to empirically reconcile estimates of the income and price elasticities of housing demand obtained by studies using micro data with those obtained using grouped (by metropolitan area) data. It is shown that

the different estimates can be accounted for by frequently made specification errors. In order to estimate the correctly specified micro and grouped equations, a new technique is used to derive the price of housing for each household in the sample. The results of this study suggest that the true (permanent) income elasticity is somewhat over 0.8 and the true price elasticity is approximately −0.7. *Rev. Econ. Statist.*, May 1979, *61*(2), pp. 199–205. Harvard University.

940 Regional Economics

941 Regional Economics

Barnard, J. R. and Ballman, R. J., Jr.—Tests of Regional Intersectoral Flows Analysis Multipliers

This paper examines intersectoral flows analysis (IFA) and economic base model multipliers in explaining regional employment change with the purpose of providing insight into the issue of model predictive accuracy. The tests involve IFA models for the Quad Cities urban area (Davenport, Iowa, and Rock Island and Moline, Illinois SMSA) and of the Hansen-Tiebout model of California. The tests compare the explanatory performance of the IFA multipliers against economic base multipliers derived from secondary data sources by use of location quotients. The general test results can be summarized as indicating that the IFA approach is better at explaining monthly employment change. *J. Reg. Sci.*, May 1979, *19*(2), pp. 201–15. University of Iowa, Ames; Augustana College, Barcelona.

Hay, D. A.—The Location of Industry in a Developing Country: The Case of Brazil

The paper attempts to evaluate the relative ability of alternative theoretical approaches ("regional growth," comparative advantage, and location theory) to explain the pattern of regional industrial development in Brazil, 1919–59. The three approaches are first subjected to theoretical scrutiny, to provide a basis for testing. Regional comparative advantage is rejected on both theoretical and empirical grounds. "Regional growth" hypotheses do not perform well empirically when properly specified. The location theory approach presents difficulties of specification and testing, but gains some support from the Brazilian experience. *Oxford Econ. Pap.*, March 1979, *31*(1), pp. 93–120. Jesus College, University of Oxford.

Martin, R. C.—Federal Regional Development Programs and U.S. Problem Areas

This paper provides an analysis of the operation of U.S. federal regional development programs as they have been applied to different types of distressed regions. Five categories of economic problem areas are specified, ranging from rich and growing areas with high unemployment rates to poor depressed rural areas. The underlying cause of distress for each category is discussed, and a regional delineation of these areas is provided. Utilizing county level data on the annual disbursement by program type, the spatial pattern of federal development funding to these areas is examined next. Various hypotheses concerning the expected effectiveness of these programs for assisting different types of problem areas are discussed and empirically tested. The results indicate that existing programs are most effective in assisting not-so-poor depressed rural areas whose economic problems are coming from diminished employment opportunities in extractive industries. *J. Reg. Sci.*, May 1979, *19*(2), pp. 157–70. University of South Carolina, Columbia.

Miyao, T.—A Probabilistic Model of Location Choice with Neighborhood Effects

This paper develops a probabilistic model of location choice by many types of individuals who interact among themselves in the presence of neighborhood effects within each location. Equilibrium is defined as an allocation of individuals among locations such that for every type of individuals the selection probability for each location is equal to the proportion of individuals actually choosing the location in question. Such an equilibrium is shown to exist under continuity assumptions, and it proves to be unique and stable if the degree of neighborhood effects is sufficiently small. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 347–58. University of Southern California, Los Angeles.

Round, J. I.—Compensating Feedback Effects in Interregional Input-Output Models

The neglect of interregional feedback effects has been posited as a possible source of error in regional input-output models. This study emphasizes the economic accounting base of these models, so that an underestimation of some flows must imply an overestimation of other flows in the system. A series of experiments on a two-region interregional model for the United Kingdom suggests the conclusion that the accounting constraints ensure that the feedback effects fully compensate for the partial or complete neglect of cross-hauling of goods between the regions. *J. Reg. Sci.*, May 1979, *19*(2), pp. 145–55. University of Warwick, England.

Schweizer, U.—A Spatial Version of the Non-substitution Theorem

It is shown that, in equilibrium, production in a monocentric city takes place in rings around the central business district (CBD) and that the ordering of these rings, referred to as production pattern, does not depend on final demand at the CBD nor on prices for factors of production to be imported at the CBD, neither do gradients of f.o.b. prices and land rent at each ring. The result holds under the assumption that production is governed by a Leontief technology. *J. Econ. Theory*, Dec. 1978, *19*(2), pp. 307–20. University of Bonn.

Index of Authors of Articles in the Subject Index

This *Index* includes all articles included in the *Subject Index;* the numerical references (arranged randomly) are to the *subject classification(s)* of the article. Classifications for different articles by the same author are separated by a semicolon; *page number(s)* for abstracts appear in italics in parentheses for articles with abstracts. If an article is written by two or three authors, each author is listed separately; if by four or more authors, it is listed under the first author only, followed by *et al.*

The list, produced by computer, is alphabetized letter by letter; the entry is then truncated to the last name and initials. This method leads to such anomalies as: (1) an author may be listed twice if only initials appear in one article and full name(s) in another; (2) alphabetization may appear to be incorrect on the second initial.

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